

SAFETY DATA SHEET

DHARMASET® BLACK B GR

Version 1.1 Revision Date: 06/24/2015 SDS Number: 400001006407

SECTION 1. IDENTIFICATION

Product name : DHARMASET® BLACK B GR

Manufacturer or supplier's details

Company name of supplier Dharma Trading Co.
Address 1805 South McDowell
 Boulevard Ext.
 Petaluma, CA 94954

Telephone United States of America
 : Cust ser: (800) 542-5227

E-mail address of person responsible for the SDS : service@dharmading.com

Emergency telephone : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Textile dyes, finishing and impregnating products; including bleaches and other processing aids

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Eye irritation : Category 2A

Skin sensitization : Category 1

Chronic aquatic toxicity : Category 2

GHS Label element

Hazard pictograms : 

Signal Word : Warning

Hazard Statements : H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P280 Wear eye protection/ face protection.
Recommended:
Tightly fitting safety goggles
P273 Avoid release to the environment.
P261 Avoid breathing dust.
P264 Wash hands thoroughly after handling.

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P272 Contaminated work clothing must not be allowed out of the workplace.

Response:

P391 Collect spillage.

P302 IF ON SKIN:

P352 Wash with plenty of soap and water.

P362 Take off contaminated clothing and wash before reuse.

P305 IF IN EYES:

P337 If eye irritation persists:

P313 Get medical advice/ attention.

Storage:

P422 Store contents under inert gas.

Disposal:

ENVT12 Dispose of waste product or used containers according to local regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

| Chemical Name | CAS-No. | Concentration (%) |
|--|------------|-------------------|
| Chromate(2-), [N-(2-chlorophenyl)-2-[2-(hydroxy-.kappa.O)-5-nitrophenyl]diazanyl-.kappa.N1]-3-(oxo-.kappa.O)butanamidato(2-)](3- | 72403-66-8 | >= 1 - <= 3 |
| Chromate(2-), [1-[2-[2-(hydroxy-.kappa.O)-3,5-dinitrophenyl]diazanyl-.kappa.N1]-2-naphthalenolato(2-)-.kappa.O][3-(hydroxy-.kappa.O) | 70236-55-4 | >= 30 - <= 60 |
| Chromate(3-), bis[3-(hydroxy-.kappa.O)-4-[2-(hydroxy-.kappa.O)-1-naphthalenyl]diazanyl-.kappa.N1]-7-nitro-1-naphthalenesulfonato(| 57693-14-8 | >= 30 - <= 60 |

SECTION 4. FIRST AID MEASURES

General advice

- : Move out of dangerous area.
- Show this material safety data sheet to the doctor in attendance.
- Do not leave the victim unattended.

If inhaled

- : If breathed in, move person into fresh air.
- Keep respiratory tract clear.
- If breathing is irregular or stopped, administer artificial respiration.
- If symptoms persist, call a physician.
- If unconscious place in recovery position and seek medical advice.

In case of skin contact

- : In case of skin contact

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Wash off immediately with plenty of water for at least 15 minutes.
If skin irritation persists, call a physician.

- In case of eye contact : In case of eye contact
Remove contact lenses.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If eye irritation persists, consult a specialist.
- If swallowed : If swallowed
Do not induce vomiting without medical advice.
If a person feels unwell or symptoms of skin irritation appear, consult a physician.
- Most important symptoms and effects, both acute and delayed : May cause an allergic skin reaction.
Causes serious eye irritation.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : No data is available on the product itself.
Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : No hazardous combustion products are known
No data is available on the product itself.
- Specific extinguishing methods : No data is available on the product itself.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.

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- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.
- Advice on safe handling : Avoid formation of respirable particles.
Do not breathe vapors/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.
- Materials to avoid : No hazardous decomposition products are known.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Personal protective equipment

- Respiratory protection : P1 filter
- Hand protection
Material : Neoprene gloves
Break through time : < 1 h
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles

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- Wear face-shield and protective suit for abnormal processing problems.
- Skin and body protection : Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : granules
- Color : black
- Odor : odorless
- Odor Threshold : No data is available on the product itself.
- pH : 7.5 - 8.5, Concentration: 1 g/l (20 °C)
- Flash point : No data is available on the product itself.
- Evaporation rate : No data is available on the product itself.
- Flammability (solid, gas) : No data is available on the product itself.
- Burning rate : Fire will spread by smoldering or slow decomposition.
Fire will spread by smoldering or slow decomposition.
- Upper explosion limit : No data is available on the product itself.
- Lower explosion limit : No data is available on the product itself.
- Vapor pressure : No data is available on the product itself.
- Relative vapor density : No data is available on the product itself.
- Relative density : No data is available on the product itself.
- Density : 0.69 g/cm³ (20 °C)
Bulk density
- Solubility(ies)
Water solubility : ≥ 65 g/l (90 °C)
- Solubility in other solvents : No data is available on the product itself.
- Partition coefficient: n-octanol/water : No data is available on the product itself.
- Autoignition temperature : No data is available on the product itself.

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Decomposition temperature : > 200 °C
Viscosity : No data is available on the product itself.
Oxidizing properties : None.
Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.
Impact sensitivity : Not impact sensitive.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.
Chemical stability : No decomposition if stored and applied as directed.
Possibility of hazardous reactions : None known.
Stable under normal conditions.
No decomposition if stored and applied as directed.
Dust may form explosive mixture in air.
Conditions to avoid : None.
No data available
Hazardous decomposition products : Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity - Product : Acute toxicity estimate: > 10 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity - Product : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation

Product:

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Species: Rabbit
Assessment: No skin irritation
Result: No skin irritation

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: Irritating to eyes.
Assessment: Irritant

Remarks: May cause irreversible eye damage.

Respiratory or skin sensitization

Product:

Routes of exposure: Skin
Species: Guinea pig
Assessment: May cause sensitization by skin contact.
Method: OECD Test Guideline 406
Result: Causes sensitization.

Remarks: Causes sensitization.

Assessment: No data available

Germ cell mutagenicity

Ingredients:

Chromate(3-), bis[3-(hydroxy-.kappa.O)-4-[2-[2-(hydroxy-.kappa.O)-1-naphthalenyl]diazenyl-.kappa.N1]-7-nitro-1-naphthalenesulfonato(:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: Not classified due to inconclusive data.

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Ingredients:

Chromate(3-), bis[3-(hydroxy-.kappa.O)-4-[2-[2-(hydroxy-.kappa.O)-1-naphthalenyl]diazenyl-.kappa.N1]-7-nitro-1-naphthalenesulfonato(:

Genotoxicity in vivo : Cell type: Somatic
Application Route: Intraperitoneal injection
Dose: 150 mg/kg
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

No data available

Carcinogenicity - Assessment : No data available

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Reproductive toxicity

Effects on fertility : No data available

Ingredients:

Chromate(3-), bis[3-(hydroxy-.kappa.O)-4-[2-[2-(hydroxy-.kappa.O)-1-naphthalenyl]diazenyl-.kappa.N1]-7-nitro-1-naphthalenesulfonato(:

Effects on fetal development : Species: Rat, male and female
Application Route: Oral
General Toxicity Maternal: NOAEL (No observed adverse effect level): 1,000 mg/kg body weight
Method: OECD Test Guideline 422
Result: No teratogenic effects.

Reproductive toxicity - Assessment : No data available

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Repeated dose toxicity

Ingredients:

Chromate(3-), bis[3-(hydroxy-.kappa.O)-4-[2-[2-(hydroxy-.kappa.O)-1-naphthalenyl]diazenyl-.kappa.N1]-7-nitro-1-naphthalenesulfonato(:

Species: Rat
NOAEL (No observed adverse effect level): 1000 mg/kg
Application Route: Ingestion
Exposure time: 672 h
Method: Subacute toxicity

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

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Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish - Product : LC50: 6 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 203

Ingredients:

Chromate(2-), [N-(2-chlorophenyl)-2-[2-(2-(hydroxy-.kappa.O)-5-nitrophenyl]diazenyl-.kappa.N1]-3-(oxo-.kappa.O)butanamidato(2-)] [3-(:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.3 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Chromate(2-), [1-[2-[2-(hydroxy-.kappa.O)-3,5-dinitrophenyl]diazenyl-.kappa.N1]-2-naphthalenolato(2-)-.kappa.O]] [3-(hydroxy-.kappa.O):

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Chromate(3-), bis[3-(hydroxy-.kappa.O)-4-[2-[2-(hydroxy-.kappa.O)-1-naphthalenyl]diazenyl-.kappa.N1]-7-nitro-1-naphthalenesulfonato(:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 79 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Ingredients:

Chromate(3-), bis[3-(hydroxy-.kappa.O)-4-[2-[2-(hydroxy-.kappa.O)-1-naphthalenyl]diazenyl-.kappa.N1]-7-nitro-1-naphthalenesulfonato(:

Toxicity to algae : ErC50: 103 mg/l
Exposure time: 168 h
Test Type: static test

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Test substance: Fresh water
Method: OECD Test Guideline 221

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : No data available

M-Factor (Chronic aquatic toxicity) : No data available

Toxicity to bacteria - Product : IC50: > 300 mg/l
Exposure time: 3 h

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Further information:
No data available

Persistence and degradability

Biodegradability - Product : Biodegradation: ca. 40 %
Exposure time: 28 d
Method: OECD Test Guideline 302B

Biochemical Oxygen Demand (BOD) - Product : 0 mgO₂/g

Chemical Oxygen Demand (COD) - Product : 950 mgO₂/g
BOD/COD : No data available

ThOD : No data available

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BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Stability in water : No data available

Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Bioaccumulation : No data available

Ingredients:

Chromate(2-), [N-(2-chlorophenyl)-2-[2-(hydroxy-.kappa.O)-5-nitrophenyl]diazenyl-.kappa.N1]-3-(oxo-.kappa.O)butanamidato(2-)]]3-(:

Partition coefficient: n-octanol/water : log Pow: < 3 (20 °C)
Method: No information available.

Chromate(2-), [1-[2-[2-(hydroxy-.kappa.O)-3,5-dinitrophenyl]diazenyl-.kappa.N1]-2-naphthalenolato(2-)-.kappa.O]]3-(hydroxy-.kappa.O):

Partition coefficient: n-octanol/water : log Pow: < 3 (20 °C)
Method: No information available.

Chromate(3-), bis[3-(hydroxy-.kappa.O)-4-[2-[2-(hydroxy-.kappa.O)-1-naphthalenyl]diazenyl-.kappa.N1]-7-nitro-1-naphthalenesulfonato(:

Partition coefficient: n-octanol/water : log Pow: -1.74 (20 °C)

Mobility in soil

Mobility : No data available

Distribution among environmental compartments : No data available

Stability in soil : No data available

Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound : .1 %

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halogens (AOX) - Product Test substance: Chlorine

Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82
Protection of Stratospheric Ozone - CAA Section 602 Class I
Substances
Remarks: This product neither contains, nor was
manufactured with a Class I or Class II ODS as defined by the
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +
B).

Additional ecological information - Product : An environmental hazard cannot be excluded in the event of
unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water
courses or the soil.
Do not contaminate ponds, waterways or ditches with
chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA

UN/ID No. : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(CHROMIUM COMPLEX MONOAZO DYESTUFF)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo
aircraft) : 956
Packing instruction
(passenger aircraft) : 956

IMDG

UN number : UN 3077

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Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CHROMIUM COMPLEX MONOAZO DYESTUFF)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

DOT Classification

UN/ID/NA number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (CHROMIUM COMPLEX MONOAZO DYESTUFF)
Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171
Marine pollutant : yes

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

SARA 311/312 Hazards : Acute Health Hazard
Acute Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

| | | |
|--|------------|----------|
| Chromate(2-), [1-[2-[2-(hydroxy-.kappa.O)-3,5-dinitrophenyl]diazenyl-.kappa.N1]-2-naphthalenolato(2-)-.kappa.O][3-(hydroxy-.kappa.O) | 70236-55-4 | 32.215 % |
|--|------------|----------|

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| | | |
|--|------------|---------|
| Chromate(3-), bis[3-(hydroxy-.kappa.O)-4-[2-[2-(hydroxy-.kappa.O)-1-naphthalenyl]diazenyl-.kappa.N1]-7-nitro-1-naphthalenesulfonato(| 57693-14-8 | 31.58 % |
| Chromate(2-), [N-(2-chlorophenyl)-2-[2-(hydroxy-.kappa.O)-5-nitrophenyl]diazenyl-.kappa.N1]-3-(oxo-2-)]3-(| 72403-66-8 | 2.05 % |

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCOMI Intermediate or Final VOC's (40 CFR 60.489).

Pennsylvania Right To Know

| | | |
|--|------------|-----------|
| Chromate(2-), [1-[2-[2-(hydroxy-.kappa.O)-3,5-dinitrophenyl]diazenyl-.kappa.N1]-2-naphthalenolato(2-)-.kappa.O][3-(hydroxy-.kappa.O) | 70236-55-4 | 30 - 50 % |
| Chromate(3-), bis[3-(hydroxy-.kappa.O)-4-[2-[2-(hydroxy-.kappa.O)-1-naphthalenyl]diazenyl-.kappa.N1]-7-nitro-1-naphthalenesulfonato(| 57693-14-8 | 30 - 50 % |
| Sulfuric acid sodium salt (1:2) | 7757-82-6 | 20 - 30 % |

California Prop 65 : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

| | |
|-------|---|
| TSCA | : On the inventory, or in compliance with the inventory |
| DSL | : On the inventory, or in compliance with the inventory |
| AICS | : On the inventory, or in compliance with the inventory |
| ENCS | : Not in compliance with the inventory |
| ISHL | : Not in compliance with the inventory |
| KECI | : Not in compliance with the inventory |
| PICCS | : On the inventory, or in compliance with the inventory |
| IECSC | : On the inventory, or in compliance with the inventory |

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

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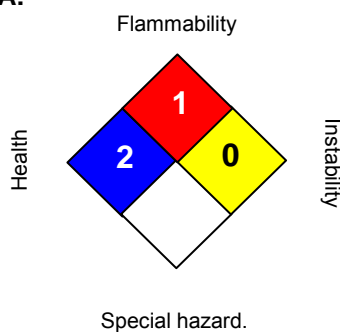
DHARMASET® BLACK B GR

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SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

| | |
|------------------------|----------|
| HEALTH | 2 |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 06/24/2015

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE. THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED Dharma Trading Co. EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR Dharma Trading Co. PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM Dharma Trading Co.. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO Dharma Trading Co., MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.

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Version 1.1 Revision Date: 08/14/2015 SDS Number: 400001005639 Date of last issue: 08/12/2015
Date of first issue: 08/12/2015

SECTION 1. IDENTIFICATION

Product name : DHARMASET® BROWN B

Manufacturer or supplier's details

Company name of supplier Dharma Trading Co.
Address 1805 South McDowell
Boulevard Ext.
Petaluma, CA 94954

United States of America

Telephone

: Cust ser: (800) 542-5227

E-mail address of person responsible for the SDS : service@dharmatrading.com

Emergency telephone : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Textile dyes, finishing and impregnating products; including bleaches and other processing aids

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin sensitization : Category 1

Chronic aquatic toxicity : Category 2

GHS Label element

Hazard pictograms :



Signal Word :

Warning

Hazard Statements :

H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements :

Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

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Date of first issue: 08/12/2015

P363 Wash contaminated clothing before reuse.
P391 Collect spillage.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

| Chemical Name | CAS-No. | Concentration (%) |
|---|------------|-------------------|
| paraffin oils | 8012-95-1 | >= 1 - <= 3 |
| disodium [2,4-dihydro-4-[(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)] [3-hydroxy-4-[(2-hydroxy-1-naphthyl) | 70236-60-1 | >= 30 - <= 60 |
| disodium [3-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-4-hydroxybenzenesulphonato(3-)] [1-[[2-hydroxy-5-(phenylazo)ph | 52587-68-5 | >= 13 - <= 30 |

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If inhaled
Move to fresh air.
Keep respiratory tract clear.
If symptoms persist, call a physician.

In case of skin contact : In case of skin contact
Wash off with soap and plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.

In case of eye contact : In case of eye contact
Flush eyes with water as a precaution.
Remove contact lenses.
If eye irritation persists, consult a specialist.

If swallowed : If swallowed
Do not induce vomiting without medical advice.
If a person feels unwell or symptoms of skin irritation appear, consult a physician.

Most important symptoms and effects, both acute and : May cause an allergic skin reaction.

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delayed

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : No data is available on the product itself.
- Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : No hazardous combustion products are known
- No data is available on the product itself.
- Specific extinguishing methods : No data is available on the product itself.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.
- Advice on safe handling : Avoid formation of respirable particles.

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Do not breathe vapors/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : No hazardous decomposition products are known.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

| Ingredients | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|--|------------|-------------------------------|--|----------|
| paraffin oils | 8012-95-1 | TWA (Mist) | 5 mg/m ³ | OSHA Z-1 |
| | | TWA (Inhalable fraction) | 5 mg/m ³ | ACGIH |
| Distillates (petroleum), hydrotreated heavy paraffinic | 64742-54-7 | TWA (Mist) | 5 mg/m ³ | OSHA Z-1 |
| | | TWA (Inhalable fraction) | 5 mg/m ³ | ACGIH |

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection Material : Gloves

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles.

Skin and body protection : Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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Hygiene measures : Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : granules

Color : black

Odor : odorless

Odor Threshold : No data is available on the product itself.

pH : 9 - 10, Concentration: 20 g/l

Flash point : No data is available on the product itself.

Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Burning rate : Product resists ignition and does not promote flame spread.
Product resists ignition and does not promote flame spread.

Upper explosion limit : No data is available on the product itself.

Lower explosion limit : No data is available on the product itself.

Vapor pressure : No data is available on the product itself.

Relative vapor density : No data is available on the product itself.

Relative density : No data is available on the product itself.

Density : 0.98 g/cm³
Bulk density

Solubility(ies)
Water solubility : 100 g/l (30 °C)

Solubility in other solvents : No data is available on the product itself.

Partition coefficient: n-octanol/water : No data is available on the product itself.

Autoignition temperature : No data is available on the product itself.

Decomposition temperature : > 200 °C

Viscosity : No data is available on the product itself.

Oxidizing properties : None.

Self-Accelerating : No data is available on the product itself.

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decomposition temperature (SADT)
Impact sensitivity : Not impact sensitive.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.
Chemical stability : No decomposition if stored and applied as directed.
Possibility of hazardous reactions : Do not mix with reducing agents.
Stable under normal conditions.

No decomposition if stored and applied as directed.

Dust may form explosive mixture in air.

Conditions to avoid : None.

No data available

Hazardous decomposition products : Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product : LD50 (Rat): > 5,000 mg/kg

Ingredients:

paraffin oils:

Acute inhalation toxicity : LC50 (Rat): 2,062 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : No data available

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation

Product:

Species: Rabbit
Assessment: No skin irritation
Result: No skin irritation

Remarks: May cause skin irritation and/or dermatitis.

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Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: No eye irritation
Assessment: No eye irritation

Remarks: Product dust may be irritating to eyes, skin and respiratory system.

Respiratory or skin sensitization

Product:

Routes of exposure: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Causes sensitization.

Remarks: Causes sensitization.

Assessment: No data available

Germ cell mutagenicity

Genotoxicity in vitro : No data available

Genotoxicity in vivo : No data available

Carcinogenicity

No data available

Carcinogenicity - Assessment : No data available

IARC Group 1: Carcinogenic to humans

paraffin oils

ACGIH Suspected human carcinogen

paraffin oils

OSHA No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP Known to be human carcinogen

paraffin oils

Reproductive toxicity

Effects on fertility : No data available

Effects on fetal development : No data available

Reproductive toxicity - : No data available

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Assessment

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Repeated dose toxicity

No data available

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish - Product : LC50: 5 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

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Ingredients:

disodium [2,4-dihydro-4-[(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)] [3-hydroxy-4-[(2-hydroxy-1-naphthyl):

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: no

disodium [3-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-4-hydroxybenzenesulphonato(3-)] [1-[[2-hydroxy-5-(phenylazo)ph:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 15.6 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : No data available

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : No data available

M-Factor (Chronic aquatic toxicity) : No data available

Toxicity to bacteria - Product : IC50: > 300 mg/l
Exposure time: 3 h

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Further information:
No data available

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Persistence and degradability

Biodegradability - Product : Biodegradation: 10 - 20 %
Exposure time: 28 d
Method: OECD Test Guideline 302B

Biochemical Oxygen Demand (BOD) - Product : 15 mgO₂/g

Chemical Oxygen Demand (COD) - Product : 1120 mgO₂/g
BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Stability in water : No data available

Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Bioaccumulation : No data available

Ingredients:

disodium [2,4-dihydro-4-[(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)] [3-hydroxy-4-[(2-hydroxy-1-naphthyl):

Partition coefficient: n-octanol/water : log Pow: < 3

disodium [3-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-4-hydroxybenzenesulphonato(3-)] [1-[[2-hydroxy-5-(phenylazo)ph:

Partition coefficient: n-octanol/water : log Pow: < 3 (20 °C)
Method: No information available.

Mobility in soil

Mobility : No data available

Distribution among environmental compartments : No data available

Stability in soil : No data available

Other adverse effects

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Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) - Product : 0 %

Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82
Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information - Product : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA

UN/ID No. : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(MONOAZO METAL COMPLEX DYESTUFF)
Class : 9

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Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 956
Packing instruction (passenger aircraft) : 956

IMDG

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MONOAZO METAL COMPLEX DYESTUFF)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

DOT Classification

UN/ID/NA number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (MONOAZO METAL COMPLEX DYESTUFF)
Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171
Marine pollutant : yes

SECTION 15. REGULATORY INFORMATION

TSCA - 5(a) Significant New Use Rule List of Chemicals : Not relevant

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

| Ingredients | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|--------------------------|------------|--------------------|-----------------------------|
| SODIUM HEXAMETAPHOSPHATE | 10124-56-8 | 5000 | * |

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Chronic Health Hazard

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SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

| | | |
|---|------------|-----------|
| disodium [2,4-dihydro-4- [(2-hydroxy-5- nitrophenyl)azo]-5- methyl-2-phenyl-3H- pyrazol-3-onato(2-)]-[3- hydroxy-4-[(2-hydroxy-1- naphthyl) | 70236-60-1 | 34.6281 % |
| disodium [3-[(4,5- dihydro-3-methyl-5-oxo- 1-phenyl-1H-pyrazol-4- yl)azo]-4- hydroxybenzenesulphon ato(3-)]-[1-[[2-hydroxy-5- (phenylazo)ph | 52587-68-5 | 23.9115 % |

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.

Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7

The ingredients of this product are reported in the following inventories:

TSCA : On the inventory, or in compliance with the inventory
DSL : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECl (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

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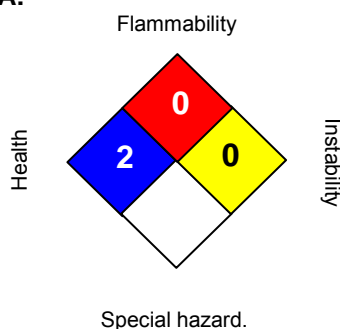
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SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

| | |
|------------------------|----------|
| HEALTH | 2 |
| FLAMMABILITY | 0 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

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While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE. THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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SAFETY DATA SHEET

DHARMASET® GREEN B

Section 1. Identification

GHS product identifier : DHARMASET® GREEN B :
Product code 00041695
Other means of identification : Not available.
Product type : Solid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Textile dye

Uses advised against

Not available.

Reason

-

Supplier's details

Dharma Trading Co.

1805 South McDowell Boulevard Ext.

Petaluma, CA 94954

Customer service telephone: (800) 542-5227

e-mail address of person responsible for this SDS

service@dharmatrading.com

Emergency telephone number (24h/7day)

: Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms



Signal word

: Warning

Hazard statements

: Very toxic to aquatic life with long lasting effects.

Section 2. Hazards identification

Precautionary statements : Avoid release to the environment. Collect spillage. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|---|----------|------------|
| Disodium [(9,10-dihydro-9,10-dioxo-1,4-anthrylene)bis(imino-4,1-phenyleneoxy)]bis(benzenesulfonate) | 60 - 100 | 70161-19-2 |
| PARAFFIN OILS | 1 - 3 | 8012-95-1 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Section 4. First aid measures

- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

- Flash point** : Closed cup: Not applicable.

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

- Remark** : Not explosive

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

| Ingredient name | Exposure limits |
|-----------------|--|
| PARAFFIN OILS | ACGIH TLV (United States, 3/2012). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction OSHA PEL (United States, 6/2010). TWA: 5 mg/m ³ 8 hours. |

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): butyl or neoprene
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Respiratory protection, filter P1
- Thermal hazards** : Not available.

Section 9. Physical and chemical properties

Appearance

| | | |
|---|--|----------|
| Physical state | : Solid. [granules] | |
| Color | : Navy blue | |
| Odor | : Odorless. | |
| Odor threshold | : Not applicable. | |
| pH | : 9 to 9.5 [Conc. (% w/w): 2%] | |
| Melting point/Freezing point | : Not available. | |
| Boiling/condensation point | : Not available. | |
| Flash point | : Closed cup: Not applicable. | |
| Evaporation rate | : Not applicable. | |
| Flammability (solid, gas) | : Not available. | |
| Lower and upper explosive (flammable) limits | : Not available. | |
| Vapor pressure | : Not available. | |
| Vapor density | : Not available. | |
| Relative density | : Not available. | |
| Solubility in water | : Not available. | |
| Water Solubility Result | : 30 g/l | 30 deg C |
| Partition coefficient: n-octanol/water | : Not available. | |
| Auto-ignition temperature | : Not available. | |
| Decomposition temperature | : 200°C (392°F) | |
| Ignition Temperature (Deg C) : SIT > 450 *ASTM-D1929B | : 420 °C | |
| Explosive properties | : Not explosive | |
| Oxidizing properties | : None. | |
| Viscosity | : Dynamic (room temperature): Not applicable. Kinematic (room temperature): Not applicable. | |

Section 10. Stability and reactivity

| | |
|------------------------------------|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : No specific data. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|--|------|---------------------------------|---------|-------------|
| Disodium [(9,10-dihydro-9,10-dioxo-1,4-anthrylene)bis(imino-4,1-phenyleneoxy)]bis(benzenesulfonate) PARAFFIN OILS | - | LD50 Oral | Rat | >5000 mg/kg |
| | - | LC50 Inhalation Dusts and mists | Rat | 2062 mg/l |
| DHARMASET GREEN B | - | LD50 Oral | Rat | 22000 mg/kg |
| | - | LD50 Oral | Rat | >5000 mg/kg |

Irritation/Corrosion

Conclusion/Summary

| | | |
|--------------------|--|--|
| Skin | : Non-irritant. Rabbit Disodium [(9,10-dihydro-9,10-dioxo-1,4-anthrylene)bis(imino-4,1-phenyleneoxy)]bis(benzenesulfonate) PARAFFIN OILS | No additional information. No additional information. |
| Eyes | : Non-irritant. Rabbit Disodium [(9,10-dihydro-9,10-dioxo-1,4-anthrylene)bis(imino-4,1-phenyleneoxy)]bis(benzenesulfonate) PARAFFIN OILS | No additional information. No additional information. |
| Respiratory | : Disodium [(9,10-dihydro-9,10-dioxo-1,4-anthrylene)bis(imino-4,1-phenyleneoxy)]bis(benzenesulfonate) PARAFFIN OILS | No additional information. No additional information. |

Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|--|-----------------------------|-------------------|------------|-----------------|
| Disodium [(9,10-dihydro-9,10-dioxo-1,4-anthrylene)bis(imino-4,1-phenyleneoxy)]bis(benzenesulfonate) DHARMASET GREEN B | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |
| | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Section 11. Toxicological information

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Section 11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information : Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Test | Endpoint | Exposure | Species | Result | |
|-------------------------|---|---|-------------|----------|----------|------------|
| PARAFFIN OILS | Disodium [(9,10-dihydro-9,10-dioxo-1,4-anthrylene)bis(imino-4,1-phenyleneoxy)]bis(benzenesulfonate) | OECD 201 Alga, Growth Inhibition Test | Acute EC50 | 72 hours | Algae | 9.6 mg/l |
| | | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | >34 mg/l |
| | | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 48 hours | Fish | 0.6 mg/l |
| | | Unknown guidelines Not known | Acute LC0 | 96 hours | Fish | >1000 mg/l |
| | | Unknown guidelines Not known | Acute LC100 | 96 hours | Fish | >1000 mg/l |
| DHARMASET GREEN B | | Unknown guidelines Not known | Acute LC50 | 96 hours | Fish | >1000 mg/l |
| | | OECD 201 Alga, Growth Inhibition Test | Acute EC50 | 72 hours | Algae | 9.6 mg/l |
| | | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | >34 mg/l |
| | | - | Acute IC50 | 3 hours | Bacteria | >300 mg/l |
| | | OECD 203 Fish, Acute Toxicity Test | Acute LC0 | 48 hours | Fish | 0.2 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 48 hours | Fish | 0.6 mg/l | |

Conclusion/Summary : Very toxic to aquatic organisms if run directly to surface waters

Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|---|---|---------|------------|
| Disodium [(9,10-dihydro-9,10-dioxo-1,4-anthrylene)bis(imino-4,1-phenyleneoxy)]bis(benzenesulfonate) | OECD 303A Simulation Test - Aerobic Sewage Treatment - Activated Sludge Units | 28 days | 10 to 20 % |
| DHARMASET GREEN B | OECD 303A Simulation Test - Aerobic Sewage Treatment - Activated Sludge Units | 28 days | 10 to 20 % |

Conclusion/Summary : Poorly eliminated by adsorption on effluent treatment sludge.

Section 12. Ecological information

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--|-------------------|------------|----------------------------|
| DHARMASET GREEN B Disodium [(9,10-dihydro-9,10-dioxo-1,4-anthrylene)bis(imino-4,1-phenyleneoxy)]bis(benzenesulfonate) | - - | - - | Not readily Not readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-----|-----------|
| Disodium [(9,10-dihydro-9,10-dioxo-1,4-anthrylene)bis(imino-4,1-phenyleneoxy)]bis(benzenesulfonate) | <3 | - | low |

Mobility in soil

Not available.

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

| | | |
|------------------------------|--|--------|
| BOD5 | : 0 | mgO2/g |
| COD | : 1270 | mgO2/g |
| TOC | : 43 | % |
| Organohalogen content | : 0 | % |
| Phosphorus Content | : 0 | % |
| Nitrogen Content | : 3.4 | % |
| Metal Content | : Metal content under the ETAD recommended limits. | |

Section 13. Disposal considerations


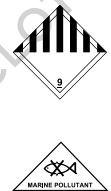
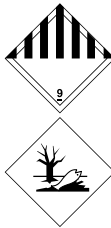
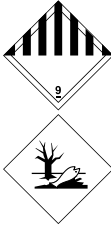
Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Proper shipping name

- DOT** : Environmentally hazardous substance, solid, n.o.s. (ANTHRAQUINONE DYESTUFF). Marine pollutant
- TDG** : Environmentally hazardous substance, solid, n.o.s. (ANTHRAQUINONE DYESTUFF). Marine pollutant
- IMDG** : Environmentally hazardous substance, solid, n.o.s. (ANTHRAQUINONE DYESTUFF). Marine pollutant
- IATA** : Environmentally hazardous substance, solid, n.o.s. (ANTHRAQUINONE DYESTUFF)

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|----------------------------|-----------|---------|-----|--|---|
| DOT Classification | UN3077 | 9 | III |  | - Only regulated in Bulk. |
| TDG Classification | UN3077 | 9 | III |  | - |
| IMDG Classification | UN3077 | 9 | III |  | Emergency schedules (EmS) F-A, S-F |
| IATA Classification | UN3077 | 9 | III |  | Passenger and Cargo Aircraft Quantity limitation: 400 kg Packaging instructions: 956 Cargo Aircraft Only Quantity limitation: 400 kg Packaging instructions: 956 |

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

United States Regulations

- TSCA 8(b) inventory** : All components are listed or exempted.
- TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.
- TSCA 5(e) substance consent order** : No ingredients listed.
- TSCA 12(b) export notification** : No ingredients listed.
- SARA 311/312** : Not classified.
- Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.
- SARA 313** : No ingredients listed.
- CERCLA Hazardous substances** : No ingredients listed.

State regulations

- PENNSYLVANIA - RTK** : Sodium sulfate, Mixture of hydrocarbons ex petroleum
- California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Canadian regulations

- CEPA DSL** : All components are listed or exempted.
- WHMIS Classes** : Not controlled under WHMIS (Canada).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil Regulations

- Classification system used** : Norma ABNT-NBR 14725-2:2012

International lists

- Australia inventory (AICS)**: All components are listed or exempted.
- China inventory (IECSC)**: All components are listed or exempted.
- Japan inventory**: All components are listed or exempted.
- Korea inventory**: All components are listed or exempted.
- Malaysia Inventory (EHS Register)**: Not determined.
- New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
- Philippines inventory (PICCS)**: All components are listed or exempted.
- Taiwan inventory (CSNN)**: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

| | |
|---------------------|---|
| Health | 0 |
| Flammability | 1 |
| Physical hazards | 0 |
| Personal protection | X |

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



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Date of previous issue : No previous validation.
Version : 1

▣ Indicates information that has changed from previously issued version.

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IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Section 16. Other information

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED Dharma Trading Co. EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR Dharma Trading Co. PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM Dharma Trading Co.. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO Dharma Trading Co., MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.



SAFETY DATA SHEET

DHARMASET® GREY G GR

Section 1. Identification

GHS product identifier : DHARMASET® GREY G
Product code GR : 00041728
Other means of identification : Not available.
Product type : Solid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Textile dye

Supplier's details

Dharma Trading Co.

1805 South McDowell Boulevard Ext.

Petaluma, CA 94954

Customer service telephone: (800) 542-5227

e-mail address of person responsible for this SDS

service@dharmatrading.com

Emergency telephone number (24h/7day)

: Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN SENSITIZATION - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 2

GHS label elements

Hazard pictograms



Signal word

: Warning

Hazard statements

: May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects.

Precautionary statements

: Wear protective gloves: < 1 hour (breakthrough time): butyl or neoprene. Avoid release to the environment. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace. Collect spillage. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 2. Hazards identification

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|--|---------|---------------------------|
| Chromium as Cr(III) organo-metal complex | 13 - 30 | 84145-95-9 |
| Cobalt as organo-metal complex | 13 - 30 | 75314-27-1 |
| Chromium as Cr(III) organo-metal complex | 7 - 13 | 68541-71-9 |
| Chromium as Cr(III) organo-metal complex | 1 - 3 | 51147-75-2 |
| Chromium as Cr(III) organo-metal complex | 1 - 3 | 64611-73-0 |
| 2-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | 1 - 3 | 36290-04-7 |
| PARAFFIN OILS | 1 - 3 | 8012-95-1 |
| Cobalt as organo-metal complex | 0.1 - 1 | 70851-34-2, 73612-41-6 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

- Flash point** : Closed cup: Not applicable.

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical

- : This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products

- : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters

- : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

- : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 5. Fire-fighting measures

Remark : Not explosive

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|--|--|
| Chromium as Cr(III) organo-metal complex | OSHA PEL (United States, 6/2010). TWA: 0.5 mg/m ³ , (as Cr) 8 hours. |
| Chromium as Cr(III) organo-metal complex | OSHA PEL (United States, 6/2010). TWA: 0.5 mg/m ³ , (as Cr) 8 hours. |
| Chromium as Cr(III) organo-metal complex | OSHA PEL (United States, 6/2010). TWA: 0.5 mg/m ³ , (as Cr) 8 hours. |
| PARAFFIN OILS | ACGIH TLV (United States, 3/2012). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction OSHA PEL (United States, 6/2010). TWA: 5 mg/m ³ 8 hours. |

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): butyl or neoprene
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Respiratory protection, filter P2
- Thermal hazards** : Not available.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. [granules]
- Color** : Black.
- Odor** : Odorless.
- Odor threshold** : Not applicable.
- pH** : 7.5 to 8 [Conc. (% w/w): 2%]
- Melting point/Freezing point** : Not available.
- Boiling/condensation point** : Not available.
- Flash point** : Closed cup: Not applicable.
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Non-flammable.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility in water** : Not available.
- Water Solubility Result** : 80 g/l 30 deg C
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : >200°C (>392°F)
- Ignition Temperature (Deg C) : SIT > 450 *ASTM-D1929B** : 500 °C
- Explosive properties** : Not explosive
- Oxidizing properties** : None.
- Density** : 0.6 to 0.7 g/cm³ [20°C (68°F)]
- Viscosity** : Dynamic (room temperature): Not applicable.
Kinematic (room temperature): Not applicable.
- VOC** : 2.1 % (w/w)

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

- Chemical stability** : The product is stable.

Section 10. Stability and reactivity

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|--|------------------------------|---------------------------------|---------|-------------|
| Cobalt as organo-metal complex | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat | >2000 mg/kg |
| Chromium as Cr(III) organo-metal complex | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat | >2000 mg/kg |
| Chromium as Cr(III) organo-metal complex | Unknown guidelines Not known | LD50 Oral | Rat | >2000 mg/kg |
| 2-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | No official guidelines | LD50 Oral | Mouse | 4880 mg/kg |
| PARAFFIN OILS | - | LC50 Inhalation Dusts and mists | Rat | 2062 mg/l |
| Cobalt as organo-metal complex | Unknown guidelines Not known | LD50 Oral | Rat | 22000 mg/kg |
| | | LD50 Oral | Rat | 3900 mg/kg |
| DHARMASET GREY G GR | - | LD50 Oral | Rat | >5000 mg/kg |

Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|-------------------------|--|---------|----------------------|
| DHARMASET GREY G GR | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Non-irritant. |
| | | Rabbit | Eyes - Non-irritant. |

Conclusion/Summary

Skin : Non-irritating to the skin.

Chromium as Cr(III) organo-metal complex : No additional information.

Cobalt as organo-metal complex : No additional information.

Chromium as Cr(III) organo-metal complex : No additional information.

Chromium as Cr(III) organo-metal complex : No additional information.

Chromium as Cr(III) organo-metal complex : No additional information.

Chromium as Cr(III) organo-metal complex : No additional information.

2-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt : No additional information.

Section 11. Toxicological information

| | | |
|-------------|--|----------------------------|
| | PARAFFIN OILS | No additional information. |
| | Cobalt as organo-metal complex | No additional information. |
| Eyes | : Non-irritating to the eyes. | |
| | Chromium as Cr(III) organo-metal complex | No additional information. |
| | Cobalt as organo-metal complex | No additional information. |
| | Chromium as Cr(III) organo-metal complex | No additional information. |
| | Chromium as Cr(III) organo-metal complex | No additional information. |
| | Chromium as Cr(III) organo-metal complex | No additional information. |
| | 2-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | No additional information. |
| | PARAFFIN OILS | No additional information. |
| | Cobalt as organo-metal complex | No additional information. |

| | | |
|--------------------|--|----------------------------|
| Respiratory | : Chromium as Cr(III) organo-metal complex | No additional information. |
| | Cobalt as organo-metal complex | No additional information. |
| | Chromium as Cr(III) organo-metal complex | No additional information. |
| | Chromium as Cr(III) organo-metal complex | No additional information. |
| | Chromium as Cr(III) organo-metal complex | No additional information. |
| | 2-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | No additional information. |
| | PARAFFIN OILS | No additional information. |
| | Cobalt as organo-metal complex | No additional information. |

Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|--|-----------------------------|-------------------|------------|-----------------|
| Chromium as Cr(III) organo-metal complex | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |
| Cobalt as organo-metal complex | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |
| Chromium as Cr(III) organo-metal complex | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| Cobalt as organo-metal complex | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| DHARMASET GREY G GR | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |

Mutagenicity

Section 11. Toxicological information

| Product/ingredient name | Test | Result |
|--|-------------------------|----------|
| 2-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | Subject: bacteria/yeast | Negative |

Carcinogenicity

Not available.

Carcinogenic class

| Product/ingredient name | IARC | OSHA |
|--|------|------|
| Chromium as Cr(III) organo-metal complex | 3 | - |
| Chromium as Cr(III) organo-metal complex | 3 | - |
| Chromium as Cr(III) organo-metal complex | 3 | - |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information : Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Test | Endpoint | Exposure | Species | Result |
|--|--|------------|----------|----------|-----------|
| Chromium as Cr(III) organo-metal complex | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | >100 mg/l |
| | - | Acute IC50 | 3 hours | Bacteria | >300 mg/l |
| Cobalt as organo-metal complex | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute LC50 | 48 hours | Fish | 7 mg/l |
| | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | >131 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >320 mg/l |
| Chromium as Cr(III) organo-metal complex | - | Acute LC50 | 48 hours | Fish | 58 mg/l |
| | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | 146 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >320 mg/l |
| | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute NOEC | 48 hours | Daphnia | 39 mg/l |

Section 12. Ecological information

| | | | | | | | |
|--|--|-------|-------|----------|----------|-----------|------|
| Chromium as Cr(III) organo-metal complex | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute | EC50 | 48 hours | Daphnia | <0.6 | mg/l |
| | Unknown guidelines Not known | Acute | IC50 | 3 hours | Bacteria | >300 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours | Fish | >100 | mg/l |
| 2-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | No official guidelines | Acute | EC50 | 48 hours | Daphnia | 37 | mg/l |
| | OECD OECD 202 screening | Acute | EC50 | 48 hours | Daphnia | 9.9 to 15 | mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute | IC50 | 3 hours | Bacteria | >1000 | mg/l |
| PARAFFIN OILS | Unknown guidelines Not known | Acute | LC0 | 96 hours | Fish | >1000 | mg/l |
| | Unknown guidelines Not known | Acute | LC100 | 96 hours | Fish | >1000 | mg/l |
| | Unknown guidelines Not known | Acute | LC50 | 96 hours | Fish | >1000 | mg/l |
| Cobalt as organo-metal complex | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute | EC50 | 48 hours | Daphnia | 30.5 | mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute | IC50 | 3 hours | Bacteria | >320 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours | Fish | 0.52 | mg/l |
| DHARMASET GREY G GR | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute | EC50 | 48 hours | Daphnia | 1 to 10 | mg/l |
| | - | Acute | IC50 | 3 hours | Bacteria | >100 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours | Fish | 18 | mg/l |

Conclusion/Summary : Toxic to aquatic organisms if run directly to surface waters.

Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|--|--|---------|------------|
| Chromium as Cr(III) organo-metal complex | OECD 302C Inherent Biodegradability: Modified MITI Test (II) | 28 days | 0 % |
| Cobalt as organo-metal complex | OECD 302C Inherent Biodegradability: Modified MITI Test (II) | 21 days | 0 % |
| Chromium as Cr(III) organo-metal complex | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 22.9 % |
| 2-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | No official guidelines | 28 days | <60 % |
| | OECD 302C Inherent Biodegradability: Modified MITI Test (II) | 28 days | <5 % |
| Cobalt as organo-metal complex | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 0.3 % |
| DHARMASET GREY G GR | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 70 to 80 % |

Section 12. Ecological information

Conclusion/Summary : Eliminated by adsorption onto effluent treatment sludge.
 Chromium as Cr(III) organo-metal complex : Partially eliminated by adsorption onto effluent treatment sludge.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--|-------------------|------------|------------------|
| DHARMASET GREY G GR | - | - | Not readily |
| Chromium as Cr(III) organo-metal complex | - | - | Not readily |
| Cobalt as organo-metal complex | - | - | Not readily |
| Chromium as Cr(III) organo-metal complex | - | - | Not readily |
| 2-naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | - | - | Not readily |
| Cobalt as organo-metal complex | - | - | Not readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-----|-----------|
| Chromium as Cr(III) organo-metal complex | <3 | - | low |
| Chromium as Cr(III) organo-metal complex | <3 | - | low |
| Chromium as Cr(III) organo-metal complex | <3 | - | low |
| Cobalt as organo-metal complex | <3 | - | low |

Mobility in soil

Not available.

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

BOD5 : 25 mgO₂/g
COD : 1000 mgO₂/g
TOC : 34.4 %
Organohalogen content : 0.28 % Chloro
Phosphorus Content : < 0.1 % as phosphate
Nitrogen Content : 5.7 %
Metal Content : 0.79 % Cobalt as organo-metal complex
 : 2.5 % Chromium as Cr(III) organo-metal complex

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

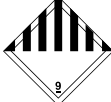

Section 14. Transport information

Proper shipping name

DOT : Environmentally hazardous substance, solid, n.o.s. (METAL COMPLEX DYESTUFF). Marine pollutant
TDG : Environmentally hazardous substance, solid, n.o.s. (METAL COMPLEX DYESTUFF). Marine pollutant
IMDG : Environmentally hazardous substance, solid, n.o.s. (METAL COMPLEX DYESTUFF). Marine pollutant
IATA : Environmentally hazardous substance, solid, n.o.s. (METAL COMPLEX DYESTUFF)

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|----------------------------|-----------|---------|-----|-------|---|
| DOT Classification | UN3077 | 9 | III | | - Marine Pollutant Only regulated in Bulk. |
| TDG Classification | UN3077 | 9 | III | | Only regulated in Bulk. Marine pollutant |
| IMDG Classification | UN3077 | 9 | III | | Emergency schedules (EmS) F-A, S-F |
| | | | | | |

Section 14. Transport information

| | | | | | |
|----------------------------|--------|---|-----|--|---|
| IATA Classification | UN3077 | 9 | III |   | Passenger and Cargo Aircraft Quantity limitation: 400 kg Packaging instructions: 956 Cargo Aircraft Only Quantity limitation: 400 kg Packaging instructions: 956 |
|----------------------------|--------|---|-----|--|---|

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

United States Regulations

TSCA 8(b) inventory : All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

TSCA 5(e) substance consent order : No ingredients listed.

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Immediate (acute) health hazard

| | <u>Product name</u> | <u>Concentration %</u> |
|---|--|------------------------|
| Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) | : Chromium as Cr(III) organo-metal complex | 19.556 |
| | : Cobalt as organo-metal complex | 17.347 |
| | : Chromium as Cr(III) organo-metal complex | 12.277 |
| | : Chromium as Cr(III) organo-metal complex | 2.9755 |
| | : Chromium as Cr(III) organo-metal complex | 1.5346 |
| | : Chromium as Cr(III) organo-metal complex | 1.5346 |

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

| | <u>Product name</u> | <u>Concentration %</u> |
|---|--|------------------------|
| SARA 313 Form R - Reporting requirements | : Chromium as Cr(III) organo-metal complex | 19.556 |
| | : Cobalt as organo-metal complex | 17.347 |
| | : Chromium as Cr(III) organo-metal complex | 12.277 |
| | : Chromium as Cr(III) organo-metal complex | 2.9755 |
| | : Chromium as Cr(III) organo-metal complex | 1.5346 |
| | : Chromium as Cr(III) organo-metal complex | 1.5346 |

Section 15. Regulatory information

| | <u>Ingredient name</u> | <u>%</u> | <u>Section 304 CERCLA Hazardous Substance</u> | <u>CERCLA Reportable Quantity (Lbs)</u> | <u>Product Reportable Quantity (Lbs)</u> |
|------------------------------------|--|----------|---|---|--|
| CERCLA Hazardous substances | Chromium as Cr(III) organo-metal complex | 19.5564 | Listed | No RQ assigned | |
| | Cobalt as organo-metal complex | 17.34717 | Listed | No RQ assigned | |
| | Chromium as Cr(III) organo-metal complex | 12.27672 | Listed | No RQ assigned | |
| | Chromium as Cr(III) organo-metal complex | 2.9755 | Listed | No RQ assigned | |
| | Chromium as Cr(III) organo-metal complex | 1.53459 | Listed | No RQ assigned | |
| | Chromium as Cr(III) organo-metal complex | 1.53459 | Listed | No RQ assigned | |
| | Cobalt as organo-metal complex | 0.3009 | Listed | | |
| | Cobalt as organo-metal complex | 0.09439 | Listed | No RQ assigned | |

State regulations

PENNSYLVANIA - RTK : Chromium as Cr(III) organo-metal complex, Chromium as Cr(III) organo-metal complex, Chromium as Cr(III) organo-metal complex, Chromium as Cr(III) organo-metal complex, Cobalt as organo-metal complex, Chromium as Cr(III) organo-metal complex, Sodium sulfate, PARAFFIN OILS

California Prop 65 : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Canadian regulations

CEPA DSL : All components are listed or exempted.

WHMIS Classes : Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil Regulations

Classification system used : Norma ABNT-NBR 14725-2:2012

International lists

Australia inventory (AICS): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): At least one component is not listed.
Taiwan inventory (CSNN): Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

| | |
|---------------------|---|
| Health | 2 |
| Flammability | 0 |
| Physical hazards | 0 |
| Personal protection | X |

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



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Date of printing : 1/2/2014.
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Date of previous issue : No previous validation.
Version : 1

▣ Indicates information that has changed from previously issued version.

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IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Section 16. Other information

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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SAFETY DATA SHEET

DHARMASET® NAVY R

Version 1.2 Revision Date: 09/29/2015 SDS Number: 400001005644 Date of last issue: 07/21/2015
Date of first issue: 07/10/2015

SECTION 1. IDENTIFICATION

Product name : DHARMASET® NAVY R

Manufacturer or supplier's details

Company name of supplier : Dharma Trading Co.
Address : 1805 South McDowell Boulevard Ext.
Petaluma, CA 94954

United States of America

Telephone : Cust ser: (800) 542-5227

E-mail address of person responsible for the SDS : service@dharmatrading.com

Emergency telephone : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Textile dyes, finishing and impregnating products; including bleaches and other processing aids

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin sensitization : Category 1

Chronic aquatic toxicity : Category 3

GHS Label element

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

SAFETY DATA SHEET

DHARMASET® NAVY R

Version 1.2 Revision Date: 09/29/2015 SDS Number: 400001005644 Date of last issue: 07/21/2015
Date of first issue: 07/10/2015

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

| Chemical Name | CAS-No. | Concentration (%) |
|--|------------|-------------------|
| disodium [4-hydroxy-3-[(2-hydroxy-4-nitrophenyl)azo]naphthalene-1-sulphonato(3-)] [1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphtholato(2-)] | 68541-71-9 | 13 - 30 |
| paraffin oils | 8012-95-1 | 1 - 3 |
| sodium 1-amino-4-[[[3,5-bis[[[(chloroacetyl)amino]methyl]-2,4,6-trimethylphenyl]amino]-9,10-dihydro-9,10-dioxoanthracene-2-sulphonate | 80010-51-1 | 0.1 - 1 |

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Move to fresh air.
Keep respiratory tract clear.
If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes.
If symptoms persist, call a physician.
Take off contaminated clothing and shoes immediately.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
If eye irritation persists, consult a specialist.

If swallowed : Do not induce vomiting without medical advice.
If a person feels unwell or symptoms of skin irritation appear, consult a physician.

Most important symptoms and effects, both acute and delayed : May cause an allergic skin reaction.

SAFETY DATA SHEET

DHARMASET® NAVY R

Version 1.2 Revision Date: 09/29/2015 SDS Number: 400001005644 Date of last issue: 07/21/2015
Date of first issue: 07/10/2015

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : No hazardous combustion products are known
- Specific extinguishing methods : No data is available on the product itself.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.
- Advice on safe handling : Avoid formation of respirable particles.
Do not breathe vapors/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitization problems or asthma,

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allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage : Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : No special restrictions on storage with other products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection

Material : Neoprene gloves

Break through time : < 1 h

Remarks

: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection

: Eye wash bottle with pure water

Tightly fitting safety goggles.

Skin and body protection

: Dust impervious protective suit

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

: When using do not eat or drink.

When using do not smoke.

Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : granules

Color : dark blue

Odor : odorless

Odor Threshold : No data is available on the product itself.

pH : 7.5 - 8, Concentration: 20 g/l

Flash point : No data is available on the product itself.

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Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Burning rate : Fire will spread by smoldering or slow decomposition.
Fire will spread by smoldering or slow decomposition.

Upper explosion limit : No data is available on the product itself.

Lower explosion limit : No data is available on the product itself.

Vapor pressure : No data is available on the product itself.

Relative vapor density : No data is available on the product itself.

Relative density : No data is available on the product itself.

Density : 0.47 g/cm³
Bulk density

Solubility(ies)
Water solubility : 100 g/l (30 °C)

Solubility in other solvents : No data is available on the product itself.

Partition coefficient: n-octanol/water : No data is available on the product itself.

Autoignition temperature : No data is available on the product itself.

Decomposition temperature : > 240 °C

Viscosity : No data is available on the product itself.

Oxidizing properties : None.

Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : The product is chemically stable.

Possibility of hazardous reactions : Dust may form explosive mixture in air.
Stable under normal conditions.

Conditions to avoid : Avoid dust formation.

Hazardous decomposition products : None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of : No data is available on the product itself.

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exposure

Acute toxicity

Acute oral toxicity - Product : LD50 (Rat): 4,770 mg/kg

Ingredients:

paraffin oils:

Acute inhalation toxicity : LC50 (Rat): 2,062 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : No data available

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation

Product:

Remarks: Product dust may be irritating to eyes, skin and respiratory system.

Respiratory or skin sensitization

Product:

Routes of exposure: Skin
Species: Guinea pig
Assessment: May cause sensitization by skin contact.
Method: OECD Test Guideline 406
Result: Causes sensitization.

Remarks: Causes sensitization.

Assessment: No data available

Germ cell mutagenicity

Ingredients:

disodium [4-hydroxy-3-[(2-hydroxy-4-nitrophenyl)azo]naphthalene-1-sulphonato(3-)] [1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphtholato(2-):

Genotoxicity in vitro : Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : No data available

Carcinogenicity

No data available

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Carcinogenicity - Assessment : No data available

IARC Group 1: Carcinogenic to humans
paraffin oils

ACGIH Suspected human carcinogen
paraffin oils

OSHA No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP Known to be human carcinogen
paraffin oils

Reproductive toxicity
Effects on fertility : No data available

Effects on fetal development : No data available

Reproductive toxicity - Assessment : No data available

STOT-single exposure
No data available

STOT-repeated exposure
No data available

Repeated dose toxicity
No data available

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity
No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

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Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish - Product : LC50: 17 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 203

Ingredients:

disodium [4-hydroxy-3-[(2-hydroxy-4-nitrophenyl)azo]naphthalene-1-sulphonato(3-)] [1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphtholato(2-):

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 146 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

NOEC (Daphnia magna (Water flea)): 39 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

sodium 1-amino-4-[[3,5-bis[[chloroacetyl]amino]methyl]-2,4,6-trimethylphenyl]amino]-9,10-dihydro-9,10-dioxoanthracene-2-sulphonate:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : No data available

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

Toxicity to daphnia and other : No data available

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aquatic invertebrates
(Chronic toxicity)

M-Factor (Chronic aquatic toxicity) : No data available

Toxicity to bacteria - Product : IC50: > 300 mg/l
Exposure time: 3 h

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment
Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Further information:
No data available

Persistence and degradability

Biodegradability - Product : Result: Not readily biodegradable.
Biodegradation: 50 - 60 %
Exposure time: 28 d
Method: OECD Test Guideline 302B

Biochemical Oxygen Demand (BOD) - Product : 0 mgO₂/g

Chemical Oxygen Demand (COD) - Product : 530 mgO₂/g
BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Stability in water : No data available

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Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Bioaccumulation : No data available

Ingredients:

disodium [4-hydroxy-3-[(2-hydroxy-4-nitrophenyl)azo]naphthalene-1-sulphonato(3-)]1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphtholato(2-):

Partition coefficient: n-octanol/water : log Pow: < 3

sodium 1-amino-4-[[3,5-bis[[chloroacetyl]amino]methyl]-2,4,6-trimethylphenyl]amino]-9,10-dihydro-9,10-dioxoanthracene-2-sulphonate:

Partition coefficient: n-octanol/water : log Pow: < 3 (20 °C)
Method: No information available.

Mobility in soil

Mobility : No data available

Distribution among environmental compartments : No data available

Stability in soil : No data available

Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) - Product : < .1 %
Test substance: Chlorine

Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82
Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information - Product : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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Harmful to aquatic life with long lasting effects.

Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA

Not regulated as a dangerous good

IMDG

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

DOT Classification

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

TSCA - 5(a) Significant New Use Rule List of Chemicals : Not relevant

EPCRA - Emergency Planning and Community Right-to-Know

SARA 311/312 Hazards : Acute Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

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Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

| | | |
|--|------------|-----------|
| disodium [4-hydroxy-3-[(2-hydroxy-4-nitrophenyl)azo]naphthalene-1-sulphonato(3-)]-[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphtholato(2-)]chromate(1-) | 68541-71-9 | 18.3024 % |
| sodium bis[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphtholato(2-)]chromate(1-) | 64611-73-0 | 2.2878 % |
| trisodium bis[4-hydroxy-3-[(2-hydroxy-4-nitrophenyl)azo]naphthalene-1-sulphonato(3-)]chromate(3-) | 68541-70-8 | 2.2878 % |

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

California Prop 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

TSCA : On the inventory, or in compliance with the inventory
DSL : This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.
DHARMASET® BLUE 2R
AICS : On the inventory, or in compliance with the inventory
NZIoC : On the inventory, or in compliance with the inventory
ENCS : On the inventory, or in compliance with the inventory
ISHL : On the inventory, or in compliance with the inventory
KECI : On the inventory, or in compliance with the inventory
PICCS : On the inventory, or in compliance with the inventory
IECSC : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

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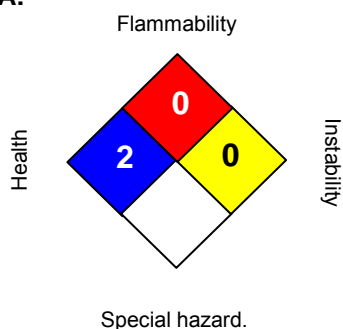
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SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

| | |
|------------------------|----------|
| HEALTH | 2 |
| FLAMMABILITY | 0 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 = Slight,

2 = Moderate, 3 = High

4 = Extreme, * = Chronic

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IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE. THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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DHARMASET® ORANGE RN

Section 1. Identification

GHS product identifier : DHARMASET® ORANGE

Product code RN : 00041906

Other means of identification : Not available.

Product type : Solid.

Material uses : Textile dye

Supplier's details

Dharma Trading Co.

1805 South McDowell Boulevard Ext.

Petaluma, CA 94954

Customer service
telephone: (800) 542-5227

service@dharmatrading.com

e-mail address of person responsible for this SDS

Emergency telephone number (24h/7day) : Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
AQUATIC HAZARD (ACUTE) - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Very toxic to aquatic life with long lasting effects.

Precautionary statements : Wear protective gloves: < 1 hour (breakthrough time): butyl or neoprene. In case of inadequate ventilation wear respiratory protection: Recommended: Respiratory protection, filter P3. Avoid release to the environment. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace. Collect spillage. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. Dispose of contents and container in accordance with all

Section 2. Hazards identification

local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|---|---------|------------|
| Chromate(2-), [2,4-dihydro-4-[(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)] [3-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-2-hydroxy-5-nitrobenzenesulfonato(3-)]-, disodium | 13 - 30 | 56819-40-0 |
| Sodium 4-(4-((5-((2-Bromo-1-oxo-2-propenyl)amino)-2-sulfophenyl)azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate | 3 - 7 | 70247-70-0 |
| white mineral oil | 1 - 3 | 8042-47-5 |
| PARAFFIN OILS | 1 - 3 | 8012-95-1 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

- Flash point** : Closed cup: Not applicable.

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical

- : This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products

- : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remark** : Not explosive

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
- Methods and materials for containment and cleaning up** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** :

Section 7. Handling and storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|--|---|
| Chromate(2-), [2,4-dihydro-4-[(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)]-[3-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-2-hydroxy-5-nitrobenzenesulfonato(3-)]-, disodium PARAFFIN OILS | <p>OSHA PEL (United States, 2/2013). TWA: 0.5 mg/m³, (as Cr) 8 hours.</p> <p>ACGIH TLV (United States, 6/2013). TWA: 5 mg/m³ 8 hours. Form: Inhalable fraction</p> <p>OSHA PEL (United States, 2/2013). TWA: 5 mg/m³ 8 hours.</p> |

- Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): butyl or neoprene
- Body protection** :

Section 8. Exposure controls/personal protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Respiratory protection, filter P3
- Thermal hazards** : Not available.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. [granules]
- Color** : Brown.
- Odor** : Odorless.
- Odor threshold** : Not applicable.
- pH** : 6 to 6.5 [Conc. (% w/w): 2%]
- Melting point/Freezing point** : Not available.
- Boiling/condensation point** : Not available.
- Flash point** : Closed cup: Not applicable.
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility in water** : Not available.
- Water Solubility Result** : 80 g/l 30 deg C
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : >200°C (>392°F)
- Ignition Temperature (Deg C) : SIT > 450 *ASTM-D1929B** : 280 °C
- Explosive properties** : Not explosive
- Oxidizing properties** : None.
- Density** : 0.8 to 0.9 g/cm³ [20°C (68°F)]
- Viscosity** : Dynamic (room temperature): Not applicable.
Kinematic (room temperature): Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|-------------------------|------|---------------------------------|---------|-------------|
| PARAFFIN OILS | - | LC50 Inhalation Dusts and mists | Rat | 2062 mg/l |
| DHARMASET ORANGE RN | - | LD50 Oral | Rat | 22000 mg/kg |
| | - | LD50 Oral | Rat | >5000 mg/kg |

Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|-------------------------|------|---------|----------------------|
| DHARMASET ORANGE RN | - | Rabbit | Eyes - Non-irritant. |
| | - | Rabbit | Skin - Non-irritant. |

Conclusion/Summary

Skin

: Non-irritating to the skin.

Chromate(2-) ,[2, 4-dihydro-4-[(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)] [3-[(4, 5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-2-hydroxy-5-nitrobenzenesulfonato (3-)]-, disodium

No additional information.

Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulfophenyl)azo)-3-methylpyrazolon-1-yl)-2, 5-dichlorobenzenesulfonate

No additional information.

white mineral oil
PARAFFIN OILS

No additional information.

No additional information.

Eyes

: Non-irritating to the eyes.

Section 11. Toxicological information

Chromate(2-), [2, 4-dihydro-4-[(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)] [3-[(4, 5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-2-hydroxy-5-nitrobenzenesulfonato (3-)]-, disodium

No additional information.

Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulfophenyl)azo)-3-methylpyrazolon-1-yl)-2, 5-dichlorobenzenesulfonate

No additional information.

white mineral oil
PARAFFIN OILS

No additional information.

No additional information.

Respiratory

: Chromate(2-), [2, 4-dihydro-4-[(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)] [3-[(4, 5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-2-hydroxy-5-nitrobenzenesulfonato (3-)]-, disodium

No additional information.

Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulfophenyl)azo)-3-methylpyrazolon-1-yl)-2, 5-dichlorobenzenesulfonate

No additional information.

white mineral oil
PARAFFIN OILS

No additional information.

No additional information.

Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|-----------------------------|-------------------|------------|-------------|
| Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulfophenyl)azo)-3-methylpyrazolon-1-yl)-2, 5-dichlorobenzenesulfonate | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| DHARMASET ORANGE RN | - | skin | Guinea pig | Sensitizing |

Conclusion/Summary

Respiratory

: This dyestuff contains C.I. Reactive Yellow 39 for which cases of respiratory sensitisation have been observed. Care should be taken to avoid inhalation. Consult a physician immediately if symptoms such as shortness of breath or asthma are observed. Should an individual become sensitized a physician should be consulted and all contact with reactive dyes must cease immediately.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Section 11. Toxicological information

Carcinogenic class

| Product/ingredient name | IARC | OSHA |
|---|------|------|
| Chromate(2-), [2,4-dihydro-4-[(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)]-[3-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-2-hydroxy-5-nitrobenzenesulfonato(3-)]-, disodium | 3 | - |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

| Product/ingredient name | Result |
|-------------------------|--------------------------------|
| white mineral oil | ASPIRATION HAZARD - Category 1 |

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
- Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Section 11. Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information : Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Test | Endpoint | Exposure | Species | Result |
|---|--|-------------|----------|----------------|------------|
| Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulphophenyl)azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | <i>Daphnia</i> | >189 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >320 mg/l |
| PARAFFIN OILS | Unknown guidelines Not known | Acute LC0 | 96 hours | Fish | >1000 mg/l |
| | Unknown guidelines Not known | Acute LC100 | 96 hours | Fish | >1000 mg/l |
| | Unknown guidelines Not known | Acute LC50 | 96 hours | Fish | >1000 mg/l |
| DHARMASET ORANGE RN | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | <i>Daphnia</i> | 30 mg/l |
| | - | Acute IC50 | 3 hours | Bacteria | >400 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 96 hours | Fish | <1 mg/l |

Conclusion/Summary : Very toxic to aquatic organisms if run directly to surface waters

Persistence and degradability

Section 12. Ecological information

| Product/ingredient name | Test | Period | Result |
|---|--|---------|------------|
| Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl) amino)-2-sulfophenyl) azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate DHARMASET ORANGE RN | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 0 % |
| | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 30 to 40 % |

Conclusion/Summary

: Partially eliminated by adsorption onto effluent treatment sludge.
Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl) amino)-2-sulfophenyl) azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate
Poorly eliminated by adsorption on effluent treatment sludge.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-------------------|------------|----------------------------|
| DHARMASET ORANGE RN Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl) amino)-2-sulfophenyl) azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate | - - | - - | Not readily Not readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-----|-----------|
| Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl) amino)-2-sulfophenyl) azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate | -3.3 | - | low |

Mobility in soil

Not available.

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

| | | | |
|------------------------------|--------|---------------------|--|
| BOD₅ | : 105 | mgO ₂ /g | |
| COD | : 685 | mgO ₂ /g | |
| TOC | : 26.2 | % | |
| Organohalogen content | : 0.2 | % | Chloro |
| Phosphorus Content | : 0 | % | |
| Nitrogen Content | : 6.7 | % | |
| Metal Content | : 1 | % | Chromium as Cr(III) organo-metal complex |

Section 13. Disposal considerations



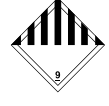



Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

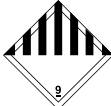

Section 14. Transport information

Proper shipping name

DOT : Environmentally hazardous substance, solid, n.o.s. (AZO DYESTUFF). Marine pollutant
TDG : Environmentally hazardous substance, solid, n.o.s. (AZO DYESTUFF). Marine pollutant
IMDG : Environmentally hazardous substance, solid, n.o.s. (AZO DYESTUFF). Marine pollutant
IATA : Environmentally hazardous substance, solid, n.o.s. (AZO DYESTUFF)

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|----------------------------|-----------|---------|-----|--|--|
| DOT Classification | UN3077 | 9 | III |   | - |
| TDG Classification | UN3077 | 9 | III |   | - |
| IMDG Classification | UN3077 | 9 | III |   | Emergency schedules (EmS) F-A, S-F |
| | | | | | |

Section 14. Transport information

| | | | | | |
|----------------------------|--------|---|-----|--|---|
| IATA Classification | UN3077 | 9 | III |   | Passenger and Cargo Aircraft Quantity limitation: 400 kg Packaging instructions: 956 Cargo Aircraft Only Quantity limitation: 400 kg Packaging instructions: 956 |
|----------------------------|--------|---|-----|--|---|

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

United States Regulations

TSCA 8(b) inventory : All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

TSCA 5(e) substance consent order : No ingredients listed.

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Immediate (acute) health hazard

| | <u>Product name</u> | <u>Concentration %</u> |
|---|--|------------------------|
| Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) | : Chromate(2-), [2,4-dihydro-4-(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)] [3-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-2-hydroxy-5-nitrobenzenesulfonato(3-)]-, disodium | 24.99 |

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

| | <u>Product name</u> | <u>Concentration %</u> |
|---|--|------------------------|
| SARA 313 Form R - Reporting requirements | : Chromate(2-), [2,4-dihydro-4-(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)] [3-[(4,5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-2-hydroxy-5-nitrobenzenesulfonato(3-)]-, disodium | 24.99 |

Section 15. Regulatory information

| | <u>Ingredient name</u> | <u>%</u> | <u>Section 304 CERCLA Hazardous Substance</u> | <u>CERCLA Reportable Quantity (Lbs)</u> | <u>Product Reportable Quantity (Lbs)</u> |
|------------------------------------|---|----------|---|---|--|
| CERCLA Hazardous substances | : Chromate(2-), [2, 4-dihydro-4-[(2-hydroxy-5-nitrophenyl)azo]-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)] [3-[(4, 5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo]-2-hydroxy-5-nitrobenzenesulfonato(3-)]-, disodium | 24.99 | Listed | No RQ assigned | |

State regulations

PENNSYLVANIA - RTK : LANACRON ORANGE S-2R CRUDE MILLED, Mixture of hydrocarbons ex petroleum

California Prop 65 : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Canadian regulations

CEPA DSL : All components are listed or exempted.

WHMIS Classes : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil Regulations

Classification system used : Norma ABNT-NBR 14725-2:2012

International lists

- Australia inventory (AICS)**: All components are listed or exempted.
- China inventory (IECSC)**: All components are listed or exempted.
- Japan inventory**: All components are listed or exempted.
- Korea inventory**: All components are listed or exempted.
- Malaysia Inventory (EHS Register)**: Not determined.
- New Zealand Inventory of Chemicals (NZIoC)**: All components are listed or exempted.
- Philippines inventory (PICCS)**: All components are listed or exempted.
- Taiwan inventory (CSNN)**: Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

| | | |
|---------------------|---|---|
| Health | * | 2 |
| Flammability | | 0 |
| Physical hazards | | 0 |
| Personal protection | | X |

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



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Date of printing : 4/29/2014.
Date of issue : 4/29/2014.
Date of previous issue : No previous validation.
Version : 1

▣ Indicates information that has changed from previously issued version.

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Section 16. Other information

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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SAFETY DATA SHEET

DHARMASET® RED G GR

Section 1. Identification

GHS product identifier : DHARMASET® RED G
Product code GR : 00043634
Other means of identification : Not available.
Product type : Solid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Textile dye

Supplier's details

Dharma Trading Co.

1805 South McDowell Boulevard Ext.

Petaluma, CA 94954

Customer service telephone: (800) 542-5227

e-mail address of person responsible for this SDS

service@dharmatrading.com

Emergency telephone number (24h/7day)

: Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Signal word : No signal word.

Hazard statements : Harmful to aquatic life with long lasting effects.

Precautionary statements : Avoid release to the environment. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|--|---------|------------|
| Chromium as Cr(III) organo-metal complex | 30 - 60 | 70209-87-9 |
| Chromium as Cr(III) organo-metal complex | 3 - 7 | 67109-27-7 |
| Formaldehyde reaction products with sulfonated diphenylether derivative, Na salt | 1 - 3 | 90387-57-8 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.

Section 4. First aid measures

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Flash point : Closed cup: Not applicable.

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
phosphorus oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : Not explosive

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
- Methods and materials for containment and cleaning up** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|--|---|
| Chromium as Cr(III) organo-metal complex | OSHA PEL (United States, 6/2010). TWA: 0.005 mg/m ³ , (as Cr) 8 hours. |
| Chromium as Cr(III) organo-metal complex | OSHA PEL (United States, 6/2010). TWA: 0.5 mg/m ³ , (as Cr) 8 hours. |

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: Tightly fitting safety goggles
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): butyl or neoprene
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Respiratory protection, filter P2
- Thermal hazards** : Not available.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. [granules]
- Color** : Red.
- Odor** : Odorless.
- Odor threshold** : Not applicable.
- pH** : 7 to 8 [Conc. (% w/w): 0.1%]
- Melting point/Freezing point** : Not available.
- Boiling/condensation point** : Not available.
- Flash point** : Closed cup: Not applicable.
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility in water** : Not available.
- Water Solubility Result** : 60 g/l 30 deg C

Section 9. Physical and chemical properties

| | |
|---|--|
| Partition coefficient: n-octanol/water | : Not available. |
| Auto-ignition temperature | : Not available. |
| Decomposition temperature | : >180°C (>356°F) |
| Ignition Temperature (Deg C) : SIT > 450 *ASTM-D1929B | : 480 °C |
| Explosive properties | : Not explosive |
| Oxidizing properties | : None. |
| Density | : 0.466 g/cm ³ [20°C (68°F)] |
| Viscosity | : Dynamic (room temperature): Not applicable. Kinematic (room temperature): Not applicable. |

Section 10. Stability and reactivity

| | |
|---|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : No specific data. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|--|---------------------------------|-----------|---------|-------------|
| Chromium as Cr(III) organo-metal complex | Unknown guidelines Not known | LD50 Oral | Rat | 1720 mg/kg |
| Chromium as Cr(III) organo-metal complex | Unknown guidelines Not known | LD50 Oral | Rat | >5000 mg/kg |
| DHARMASET RED G GR | - | LD50 Oral | Rat | >2000 mg/kg |

Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|--|------------------------------|---------|----------------------|
| Chromium as Cr(III) organo-metal complex | Unknown guidelines Not known | Rabbit | Eyes - Irritant |
| | Unknown guidelines Not known | Rabbit | Skin - Non-irritant. |

Conclusion/Summary

Skin : Non-irritant. OECD 404 Rabbit

Section 11. Toxicological information

Chromium as Cr(III) organo-metal complex Non-irritating to the skin.
 Chromium as Cr(III) organo-metal complex No additional information.
 Formaldehyde reaction products with sulfonated diphenylether derivative, Na salt No additional information.

Eyes

: Non-irritant. OECD 405 Rabbit
 Chromium as Cr(III) organo-metal complex Irritating to eyes.
 Chromium as Cr(III) organo-metal complex No additional information.
 Formaldehyde reaction products with sulfonated diphenylether derivative, Na salt No additional information.

Respiratory

: Chromium as Cr(III) organo-metal complex No additional information.
 Chromium as Cr(III) organo-metal complex No additional information.
 Formaldehyde reaction products with sulfonated diphenylether derivative, Na salt No additional information.

Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|--|-----------------------------|-------------------|------------|-----------------|
| Chromium as Cr(III) organo-metal complex | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |
| Chromium as Cr(III) organo-metal complex | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |
| DHARMASET RED G GR | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |

Mutagenicity

Not available.

Carcinogenicity

Not available.

Carcinogenic class

| Product/ingredient name | IARC | OSHA |
|--|------|------|
| Chromium as Cr(III) organo-metal complex | 1 | + |
| Chromium as Cr(III) organo-metal complex | 3 | - |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Section 11. Toxicological information

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 11. Toxicological information

Other information : Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Test | Endpoint | Exposure | Species | Result |
|--|--|------------|----------|----------|-----------|
| Chromium as Cr(III) organo-metal complex | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | 130 mg/l |
| Chromium as Cr(III) organo-metal complex | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 96 hours | Fish | 14 mg/l |
| Chromium as Cr(III) organo-metal complex | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | 75.3 mg/l |
| Chromium as Cr(III) organo-metal complex | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >320 mg/l |
| Formaldehyde reaction products with sulfonated diphenylether derivative, Na salt | OECD 201 Alga, Growth Inhibition Test | Acute EC50 | 72 hours | Algae | 17 mg/l |
| Formaldehyde reaction products with sulfonated diphenylether derivative, Na salt | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >100 mg/l |
| DHARMASET RED G GR | - | Acute LC50 | 96 hours | Fish | >100 mg/l |
| | - | Acute IC50 | 3 hours | Bacteria | >100 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC0 | 96 hours | Fish | 10 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 96 hours | Fish | 35 mg/l |

Conclusion/Summary : Harmful to aquatic organisms if run directly to surface waters.

Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|--|---|---------|--------|
| Chromium as Cr(III) organo-metal complex | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 82 % |
| DHARMASET RED G GR | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 72 % |

Conclusion/Summary : Eliminated by adsorption onto effluent treatment sludge.
Chromium as Cr(III) organo-metal complex Eliminated by adsorption onto effluent treatment sludge.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--|-------------------|------------|------------------|
| DHARMASET RED G GR | - | - | Not readily |
| Chromium as Cr(III) organo-metal complex | - | - | Not readily |

Bioaccumulative potential

Section 12. Ecological information

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-----|-----------|
| Chromium as Cr(III) organo-metal complex | <3 | - | low |
| Chromium as Cr(III) organo-metal complex | 5.06 | - | high |

Mobility in soil

Not available.

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

| | | | |
|------------------------------|--------|--------|--|
| BOD5 | : 30 | mgO2/g | |
| COD | : 665 | mgO2/g | |
| TOC | : 21.5 | % | |
| Organohalogen content | : 0.4 | % | Chloro |
| Phosphorus Content | : 0 | % | |
| Nitrogen Content | : 7.7 | % | |
| Metal Content | : 3 | % | Chromium as Cr(III) organo-metal complex |

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Proper shipping name

DOT : Not regulated.
TDG : Not regulated.
IMDG : Not regulated.
IATA : Not regulated.

Section 14. Transport information

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|------------------------|----------------|---------|-----|-------|------------------------|
| DOT Classification | Not regulated. | - | - | | - |
| TDG Classification | Not regulated. | - | - | | - |
| IMDG Classification | Not regulated. | - | - | | - |
| IATA Classification | Not regulated. | - | - | | - |

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

United States Regulations

TSCA 8(b) inventory : All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

TSCA 5(e) substance consent order : No ingredients listed.

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Not classified.

| | <u>Product name</u> | <u>Concentration %</u> |
|---|--|------------------------|
| Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) | Chromium as Cr(III) organo-metal complex | 37.138 |
| | Chromium as Cr(III) organo-metal complex | 6.567 |

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

| | <u>Product name</u> | <u>Concentration %</u> |
|---|--|------------------------|
| SARA 313 Form R - Reporting requirements | Chromium as Cr(III) organo-metal complex | 37.138 |
| | Chromium as Cr(III) organo-metal complex | 6.567 |

| | <u>Ingredient name</u> | <u>%</u> | <u>Section 304 CERCLA Hazardous Substance</u> | <u>CERCLA Reportable Quantity (Lbs)</u> | <u>Product Reportable Quantity (Lbs)</u> |
|------------------------------------|------------------------|----------|---|---|--|
| CERCLA Hazardous substances | | | | | |

Section 15. Regulatory information

| | | | | |
|--|---------|--------|----------------|--------|
| Chromium as Cr(III) organo-metal complex | 37.1379 | Listed | No RQ assigned | |
| Chromium as Cr(III) organo-metal complex | 6.567 | Listed | No RQ assigned | |
| Triphosphoric acid, pentasodium salt; | 1.4103 | Listed | 5000 | 354534 |
| Triphosphoric acid, sodium salt (1:5); | | | | |
| Sodium phosphate; | | | | |
| Pentasodium tripolyphosphate | | | | |

State regulations

PENNSYLVANIA - RTK : Chromium as Cr(III) organo-metal complex, Triphosphoric acid, pentasodium salt; Triphosphoric acid, sodium salt (1:5); Sodium phosphate; Pentasodium tripolyphosphate, Sodium sulfate, Chromium as Cr(III) organo-metal complex

California Prop 65 : **WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

| <u>Ingredient name</u> | <u>Cancer</u> | <u>Reproductive</u> |
|--|---------------|---------------------|
| Chromium as Cr(III) organo-metal complex | Yes. | Yes. |
| PARAFFIN OILS | Yes. | No. |

Canadian regulations

CEPA DSL : All components are listed or exempted.

WHMIS Classes : Not controlled under WHMIS (Canada).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil Regulations

Classification system used : Norma ABNT-NBR 14725-2:2012

International lists

Australia inventory (AICS): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): Not determined.
Taiwan inventory (CSNN): Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

| | |
|---------------------|---|
| Health | 1 |
| Flammability | 1 |
| Physical hazards | 0 |
| Personal protection | X |

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



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Version : 2

▣ Indicates information that has changed from previously issued version.

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IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Section 16. Other information

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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SAFETY DATA SHEET

DHARMASET® BLUE 2R

Version 1.0 Revision Date: 07/07/2015 SDS Number: 400001005647 Date of last issue: -
Date of first issue: 07/07/2015

SECTION 1. IDENTIFICATION

Product name : DHARMASET® BLUE 2R

Manufacturer or supplier's details

Company name of supplier Dharma Trading Co.
Address 1805 South McDowell Boulevard Ext.
Petaluma, CA 94954

United States of America

Telephone : Cust ser: (800) 542-5227

E-mail address of person responsible for the SDS :service@dharmatrading.com

Emergency telephone : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Textile dyes, finishing and impregnating products; including bleaches and other processing aids

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin sensitization : Category 1

Acute aquatic toxicity : Category 3

Chronic aquatic toxicity : Category 3

GHS Label element

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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P363 Wash contaminated clothing before reuse.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

Disposal:

P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

| Chemical Name | CAS-No. | Concentration (%) |
|--|------------|-------------------|
| 2-Anthracenesulfonic acid, 1-amino-4-[[[3,5-bis[[[(2-chloroacetyl)amino]methyl]-2,4,6-trimethylphenyl]amino]-9,10-dihydro-9,10-dioxo-, | 80010-51-1 | 30 - 60 |
| Chromate(2-), [4-[2-[5-chloro-2-(hydroxy-.kappa.O)-3-nitrophenyl]diazanyl-.kappa.N1]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-onat | 72017-66-4 | 0.1 - 1 |

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : If inhaled
Move to fresh air.
Keep respiratory tract clear.
If breathing is irregular or stopped, administer artificial respiration.
If symptoms persist, call a physician.
If unconscious place in recovery position and seek medical advice.

In case of skin contact : In case of skin contact
Wash off immediately with plenty of water for at least 15 minutes.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.

In case of eye contact : In case of eye contact
Flush eyes with water as a precaution.
Remove contact lenses.
If eye irritation persists, consult a specialist.

If swallowed : If swallowed
Do NOT induce vomiting.
If a person feels unwell or symptoms of skin irritation appear,

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consult a physician.
Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed : May cause an allergic skin reaction.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : No data is available on the product itself.
- Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : No hazardous combustion products are known
- No data is available on the product itself.
- Specific extinguishing methods : No data is available on the product itself.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

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Advice on protection against fire and explosion : Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.

Advice on safe handling : Avoid formation of respirable particles.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : No hazardous decomposition products are known.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : P2 filter

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Material : Neoprene gloves
Break through time : < 1 h

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

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Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles.

Skin and body protection : Dust impervious protective suit
Choose body protection according to the amount and
concentration of the dangerous substance at the work place.

Hygiene measures : Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder

Color : dark blue

Odor : odorless

Odor Threshold : No data is available on the product itself.

pH : 7 - 7.5, Concentration: 20 g/l

Flash point : No data is available on the product itself.

Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Burning rate : Product resists ignition and does not promote flame spread.
Product resists ignition and does not promote flame spread.

Upper explosion limit : No data is available on the product itself.

Lower explosion limit : No data is available on the product itself.

Vapor pressure : No data is available on the product itself.

Relative vapor density : No data is available on the product itself.

Relative density : No data is available on the product itself.

Density : 0.578 g/cm³
Bulk density

Solubility(ies)
Water solubility : 100 g/l (30 °C)

Solubility in other solvents : No data is available on the product itself.

Partition coefficient: n-
octanol/water : No data is available on the product itself.

Autoignition temperature : No data is available on the product itself.

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Decomposition temperature : > 200 °C
Viscosity : No data is available on the product itself.
Oxidizing properties : None.
Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.
Impact sensitivity : Not impact sensitive.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.
Chemical stability : No decomposition if stored and applied as directed.
Possibility of hazardous reactions : None known.
Stable under normal conditions.
No decomposition if stored and applied as directed.
Dust may form explosive mixture in air.
Conditions to avoid : None.
No data available
Hazardous decomposition products : Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation

Product:

Remarks: May cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation

Product:

Remarks: Product dust may be irritating to eyes, skin and respiratory system.

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Respiratory or skin sensitization

Product:

Routes of exposure: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Causes sensitization.

Remarks: Causes sensitization.

Assessment: No data available

Germ cell mutagenicity

Genotoxicity in vitro : No data available

Genotoxicity in vivo : No data available

Carcinogenicity

No data available

Carcinogenicity - Assessment : No data available

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Effects on fertility : No data available

Effects on fetal development : No data available

Reproductive toxicity - Assessment : No data available

STOT-single exposure

No data available

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STOT-repeated exposure

No data available

Repeated dose toxicity

No data available

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish - Product : LC0: 30 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

LC50: 68 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 100 mg/l

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aquatic invertebrates - Product Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : No data available

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : No data available

M-Factor (Chronic aquatic toxicity) : No data available

Toxicity to bacteria - Product : IC50: > 400 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Further information:
No data available

Persistence and degradability

Biodegradability - Product : Biodegradation: 20 - 30 %
Exposure time: 28 d
Method: OECD Test Guideline 302B

Biochemical Oxygen Demand (BOD) - Product : 20 mgO₂/g

Chemical Oxygen Demand (COD) - Product : 1230 mgO₂/g

BOD/COD : No data available

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ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Stability in water : No data available

Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential

Bioaccumulation : No data available

Ingredients:

2-Anthracenesulfonic acid, 1-amino-4-[[3,5-bis[[[(2-chloroacetyl)amino]methyl]-2,4,6-trimethylphenyl]amino]-9,10-dihydro-9,10-dioxo-,:

Partition coefficient: n-octanol/water : log Pow: < 3 (20 °C)
Method: No information available.

Chromate(2-), [4-[2-[5-chloro-2-(hydroxy- κ .O)-3-nitrophenyl]diazanyl- κ .N1]-2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-onat:

Partition coefficient: n-octanol/water : log Pow: < 3 (20 °C)
Method: No information available.

Mobility in soil

Mobility : No data available

Distribution among environmental compartments : No data available

Stability in soil : No data available

Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) - Product : 7.3 %
Test substance: Chlorine

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Hazardous to the ozone layer

- Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82
Protection of Stratospheric Ozone - CAA Section 602 Class I
Substances
Remarks: This product neither contains, nor was
manufactured with a Class I or Class II ODS as defined by the
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +
B).
- Additional ecological information - Product : An environmental hazard cannot be excluded in the event of
unprofessional handling or disposal.
Harmful to aquatic life with long lasting effects.
- Global warming potential (GWP) : No data available
-

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

- Waste from residues : The product should not be allowed to enter drains, water
courses or the soil.
Do not contaminate ponds, waterways or ditches with
chemical or used container.
Send to a licensed waste management company.
- Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
-

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA
Not regulated as a dangerous good

IMDG
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

DOT Classification
Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

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TSCA - 5(a) Significant New Use Rule List of Chemicals : Not relevant

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

| Ingredients | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|-------------------------|-----------|--------------------|-----------------------------|
| SODIUM TRIPOLYPHOSPHATE | 7758-29-4 | 5000 | * |

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Acute Health Hazard
No SARA Hazards

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Pennsylvania Right To Know

| | | |
|--|------------|-----------|
| 2-Anthracenesulfonic acid, 1-amino-4-[[[3,5-bis[[[(2-chloroacetyl)amino]methyl]-2,4,6-trimethylphenyl]amino]-9,10-dihydro-9,10-dioxo-, | 80010-51-1 | 50 - 70 % |
| Dextrin | 9004-53-9 | 20 - 30 % |
| Water | 7732-18-5 | 5 - 10 % |
| Naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | 9084-06-4 | 5 - 10 % |
| Triphosphoric acid, sodium salt (1:5) | 7758-29-4 | 1 - 5 % |

California Prop 65

WARNING! This product contains a chemical known in the State of California to cause cancer.

| | |
|--|------------|
| Quinoline | 91-22-5 |
| Paraffin oil | 8012-95-1 |
| Formaldehyde | 50-00-0 |
| Distillates (petroleum), hydrotreated heavy paraffinic | 64742-54-7 |

The ingredients of this product are reported in the following inventories:

TSCA : On the inventory, or in compliance with the inventory
DSL : This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.
AICS : DHARMASET® YELLOW 4GN
: On the inventory, or in compliance with the inventory

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NZIoC : On the inventory, or in compliance with the inventory
: DISPERGATOR CC GRANULES
ENCS : On the inventory, or in compliance with the inventory
ISHL : On the inventory, or in compliance with the inventory
KECI : On the inventory, or in compliance with the inventory
PICCS : On the inventory, or in compliance with the inventory
IECSC : On the inventory, or in compliance with the inventory

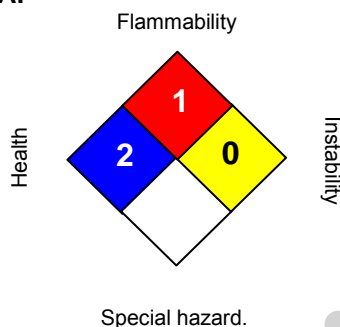
Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

| | |
|-----------------|---|
| HEALTH | 2 |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 07/07/2015

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE. THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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DHARMASET® BLUE 2R

| | | | |
|---------|----------------|--------------|---------------------------------|
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SAFETY DATA SHEET

DHARMASET® BLUE 5G

1. Product and company identification

Product name : DHARMASET® BLUE
Material uses : 5G Textile dye
Chemical family : Anthraquinone dye preparation
MSDS # : 00041694
Validation date : 6/10/2013.

Supplier/Manufacturer : Dharma Trading Co.
1805 South McDowell Boulevard Ext.
Petaluma, CA 94954

Customer service telephone: (800) 542-5227 :

e-mail address of person responsible for this SDS : service@dharmatrading.com

In case of emergency (24h/7day) : Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

Physical state : Solid. [Powder]
Odor : Odorless.
Color : Blue.
OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
AQUATIC TOXICITY (CHRONIC) - Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Causes serious eye irritation.
Toxic to aquatic life with long lasting effects.

Precautionary statements : Wear eye or face protection: Recommended: Tightly fitting safety goggles. Avoid release to the environment. Wash hands thoroughly after handling. Collect spillage. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|---|----------|------------|
| Sodium [[(Chloroacetyl)amino]methyl][4-[[4-(cyclohexylamino)-9,10-dihydro-9,10-dioxo-1-anthracenyl]amino]phenoxy]methylbenzenesulfonic acid | 60 - 100 | 72391-24-3 |
| Cumene-4-sulfonic acid sodium salt | 7 - 13 | 28348-53-0 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

- Flash point** : Closed cup: Not applicable.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides
- Extinguishing media**
- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

Section 5. Fire-fighting measures

- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remark** : Not explosive

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
- Methods and materials for containment and cleaning up** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** :

Section 7. Handling and storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

- Appropriate engineering controls** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: Tightly fitting safety goggles
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): butyl or neoprene
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Respiratory protection, filter P1

Section 9. Physical and chemical properties

Appearance

| | | | |
|---|--|----|-------|
| Physical state | : Solid. [Powder] | | |
| Color | : Blue. | | |
| Odor | : Odorless. | | |
| Odor threshold | : Not applicable. | | |
| pH | : 8 to 8.6 [Conc. (% w/w): 2%] | | |
| Melting point/Freezing point | : Not available. | | |
| Boiling/condensation point | : Not available. | | |
| Flash point | : Closed cup: Not applicable. | | |
| Evaporation rate | : Not applicable. | | |
| Flammability (solid, gas) | : Not available. | | |
| Lower and upper explosive (flammable) limits | : Not available. | | |
| Vapor pressure | : Not available. | | |
| Vapor density | : Not available. | | |
| Specific gravity | : Not available. | | |
| Water Solubility | : 65 g/l | 30 | deg C |
| Partition coefficient: n-octanol/water | : Not available. | | |
| Auto-ignition temperature | : Not available. | | |
| Decomposition temperature | : >180°C (>356°F) | | |
| Ignition Temperature (Deg C) : SIT > 450 *ASTM-D1929B | : 440 °C | | |
| Explosive properties | : Not explosive | | |
| Oxidizing properties | : None. | | |
| Viscosity | : Dynamic (room temperature): Not applicable. Kinematic (room temperature): Not applicable. | | |

Section 10. Stability and reactivity

| | |
|------------------------------------|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : No specific data. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|------------------------------|-------------|---------|-------------|
| Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9, 10-dihydro-9, 10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid Cumene-4-sulfonic acid sodium salt DHARMASET BLUE 5G | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat | >2000 mg/kg |
| | - | LD50 Dermal | Rabbit | >2000 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat | >7000 mg/kg |
| | - | LD50 Oral | Rat | >5000 mg/kg |

Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|-------------------------|------|---------|----------------------|
| DHARMASET BLUE 5G | - | Rabbit | Skin - Non-irritant. |

Conclusion/Summary

Skin

- : Non-irritating to the skin.
Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9, 10-dihydro-9, 10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid
Cumene-4-sulfonic acid sodium salt
No known significant effects or critical hazards.
- : Non-irritating to the skin.
Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9, 10-dihydro-9, 10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid
Cumene-4-sulfonic acid sodium salt
No known significant effects or critical hazards.

Eyes

- : Irritating to eyes. Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9, 10-dihydro-9, 10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid
Cumene-4-sulfonic acid sodium salt
No known significant effects or critical hazards.
- : Irritating to eyes. Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9, 10-dihydro-9, 10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid
Cumene-4-sulfonic acid sodium salt
No known significant effects or critical hazards.

Respiratory

- : No known significant effects or critical hazards.
Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9, 10-dihydro-9, 10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid
Cumene-4-sulfonic acid sodium salt
No known significant effects or critical hazards.
- : No known significant effects or critical hazards.
Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9, 10-dihydro-9, 10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid
Cumene-4-sulfonic acid sodium salt
No known significant effects or critical hazards.

Sensitization

Section 11. Toxicological information

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|-----------------------------|-------------------|------------|-----------------|
| Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9,10-dihydro-9,10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid Cumene-4-sulfonic acid sodium salt DHARMASET BLUE 5G | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |
| | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |
| | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Irritating to mouth, throat and stomach.

Potential chronic health effects

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Section 12. Ecological information

Aquatic ecotoxicity

| Product/ingredient name | Test | Endpoint | Exposure | Species | Result |
|--|--|--------------|----------|----------------|------------|
| Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9,10-dihydro-9,10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | <i>Daphnia</i> | >78 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >300 mg/l |
| Cumene-4-sulfonic acid sodium salt | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 48 hours | Fish | 1.3 mg/l |
| | DIN DIN 38412 Part 8 | Acute IC50 | 48 hours | Bacteria | >1000 mg/l |
| | DIN DIN 38412 (Lumistox test) | Acute LC0 | 48 hours | Fish | >1000 mg/l |
| | Unknown guidelines Not known | Chronic EC50 | 21 days | <i>Daphnia</i> | 154 mg/l |
| | Unknown guidelines | Chronic NOEC | 21 days | <i>Daphnia</i> | >30 mg/l |

Section 12. Ecological information

| | | | | | | | |
|-------------------|---|-------|------|----------|----------|------|------|
| DHARMASET BLUE 5G | Not known | Acute | EC50 | 48 hours | Daphnia | >78 | mg/l |
| | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | | | | | | |
| | - | | | | | | |
| | OECD 203 Fish, Acute Toxicity Test | Acute | IC50 | 3 hours | Bacteria | >300 | mg/l |
| | | Acute | LC50 | 48 hours | Fish | 4.4 | mg/l |

Conclusion/Summary : Toxic to aquatic organisms if run directly to surface waters.

Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|---|---|---------|------------|
| Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9, 10-dihydro-9, 10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid DHARMASET BLUE 5G | OECD 303A Simulation Test - Aerobic Sewage Treatment - Activated Sludge Units | 28 days | 40 % |
| | OECD 303A Simulation Test - Aerobic Sewage Treatment - Activated Sludge Units | 28 days | 40 to 50 % |

Conclusion/Summary : Partially eliminated by adsorption onto effluent treatment sludge.
Cumene-4-sulfonic acid Eliminated by biodegradation
sodium salt

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--|-------------------|------------|------------------|
| DHARMASET BLUE 5G | - | - | Not readily |
| Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9, 10-dihydro-9, 10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid | - | - | Not readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-----|-----------|
| Sodium [[(Chloroacetyl) amino]methyl][4-[[4-(cyclohexylamino)-9, 10-dihydro-9, 10-dioxo-1-anthracenyl] amino]phenoxy] methylbenzenesulfonic acid | <3 | - | low |

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

| | | | |
|------------------------------|-----------|--------|--------|
| BOD5 | : 0 | mgO2/g | |
| COD | : 1100 | mgO2/g | |
| TOC | : 37.5 | % | |
| Organohalogen content | : 3.7 | % | Chloro |
| Phosphorus Content | : 0 | % | |
| Nitrogen Content | : 0.00295 | % | |

Section 12. Ecological information

: Metal content under the ETAD recommended limits.

Section 13. Disposal considerations





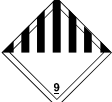

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.



Section 14. Transport information

Proper shipping name

DOT : Environmentally hazardous substance, solid, n.o.s. (ANTHRAQUINONE DYESTUFF). Marine pollutant
TDG : Environmentally hazardous substance, solid, n.o.s. (ANTHRAQUINONE DYESTUFF) Marine pollutant
IMDG : Environmentally hazardous substance, solid, n.o.s. (ANTHRAQUINONE DYESTUFF) Marine pollutant
IATA : Environmentally hazardous substance, solid, n.o.s. (ANTHRAQUINONE DYESTUFF)

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|----------------------------|-----------|---------|-----|--|--|
| DOT Classification | UN3077 | 9 | III |   | Only regulated in Bulk. Marine Pollutant |
| TDG Classification | UN3077 | 9 | III |   | Only regulated in Bulk. Marine pollutant |
| IMDG Classification | UN3077 | 9 | III |   | Emergency schedules (EmS) F-A, S-F |

Section 14. Transport information

| | | | | | |
|----------------------------|--------|---|-----|--|---|
| IATA Classification | UN3077 | 9 | III |   | Passenger and Cargo Aircraft Quantity limitation: 400 kg Packaging instructions: 956 Cargo Aircraft Only Quantity limitation: 400 kg Packaging instructions: 956 |
|----------------------------|--------|---|-----|--|---|

PG* : Packing group

Section 15. Regulatory information

United States

U.S. Federal regulations

- TSCA 8(b) inventory** : All components are listed or exempted.
- TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.
- TSCA 5(e) substance consent order** : No ingredients listed.
- TSCA 12(b) export notification** : No ingredients listed.
- SARA 311/312** : Immediate (acute) health hazard
- Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** : No ingredients listed.
- Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.
- SARA 313** : No ingredients listed.
- CERCLA Hazardous substances** : No ingredients listed.

State regulations

- PENNSYLVANIA - RTK** : No ingredients listed.
- California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

International regulations

Canada

- CEPA DSL** : All components are listed or exempted.
- WHMIS Classes** : Class D-2B: Material causing other toxic effects (Toxic).

Section 15. Regulatory information

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil

Regulation : Decreto Federal n.º 2657 de 3 de novembro de 1998

International lists

: **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: Not determined.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

| | |
|---------------------|---|
| Health | 2 |
| Flammability | 1 |
| Physical hazards | 0 |
| Personal protection | X |

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



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Date of printing : 6/10/2013.
Date of issue : 6/10/2013.
Date of previous issue : No previous validation.
Version : 1

Indicates information that has changed from previously issued version.

Section 16. Other information

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Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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**COLOR
ON
FABRIC**

SAFETY DATA SHEET

DHARMASET® BORDEAUX B

Section 1. Identification

GHS product identifier : DHARMASET®
Product code : BORDEAUX B : 00041718
Other means of identification : Not available.
Product type : Solid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Textile dye

Supplier's details

Dharma Trading Co.

1805 South McDowell Boulevard Ext.

Petaluma, CA 94954

Customer service telephone: (800) 542-5227

e-mail address of person responsible for this SDS

service@dharmatrading.com

Emergency telephone number (24h/7day)

: Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

: SKIN SENSITIZATION - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 3.1%
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 3.1%

GHS label elements

Hazard pictograms



Signal word

: Warning

Hazard statements

: May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects.

Section 2. Hazards identification

Precautionary statements : Wear protective gloves: < 1 hour (breakthrough time): butyl or neoprene. Avoid release to the environment. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace. Collect spillage. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|---|---------|---------------|
| Chromium as Cr(III) organo-metal complex | 30 - 60 | ACCN # 130519 |
| Disodium 5,5'-[(1-methylethylidene)bis(4,1-phenyleneoxysulphonyl-2,1-phenyleneazo)]bis[6-amino-4-hydroxynaphthalene-2-sulphonate] | 3 - 7 | 52333-30-9 |
| Sodium 2-[methyloleoylamino]ethane-1-sulphonate | 3 - 7 | 137-20-2 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Section 4. First aid measures

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

- Flash point** : Closed cup: Not applicable.

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical

Hazardous thermal decomposition products

- : This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
phosphorus oxides
metal oxide/oxides

Special protective actions for fire-fighters

- : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire-fighting measures

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remark** : Not explosive

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

- Methods and materials for containment and cleaning up** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): butyl or neoprene
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Respiratory protection, filter P2
- Thermal hazards** : Not available.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. [granules]
- Color** : Dark red
- Odor** : Odorless.
- Odor threshold** : Not applicable.
- pH** : 7.5 to 8 [Conc. (% w/w): 2%]
- Melting point/Freezing point** : Not available.

Section 9. Physical and chemical properties

| | |
|---|--|
| Boiling/condensation point | : Not available. |
| Flash point | : Closed cup: Not applicable. |
| Evaporation rate | : Not applicable. |
| Flammability (solid, gas) | : Not available. |
| Lower and upper explosive (flammable) limits | : Not available. |
| Vapor pressure | : Not available. |
| Vapor density | : Not available. |
| Relative density | : Not available. |
| Solubility in water | : Not available. |
| Water Solubility Result | : 20 g/l |
| Partition coefficient: n-octanol/water | : Not available. |
| Auto-ignition temperature | : Not available. |
| Decomposition temperature | : >200°C (>392°F) |
| Ignition Temperature (Deg C) : SIT > 450 *ASTM-D1929B | : 450 °C |
| Explosive properties | : Not explosive |
| Oxidizing properties | : None. |
| Density | : 0.74 g/cm ³ [20°C (68°F)] |
| Viscosity | : Dynamic (room temperature): Not applicable. Kinematic (room temperature): Not applicable. |

Section 10. Stability and reactivity

| | |
|---|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : No specific data. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|--|-----------|---------|-------------|
| Chromium as Cr(III) organo-metal complex | Unknown guidelines | LD50 Oral | Rat | >2000 mg/kg |
| Disodium 5,5'-[(1-methylethylidene)bis(4, 1-phenyleneoxysulphonyl-2, 1-phenyleneazo)]bis [6-amino-4-hydroxynaphthalene-2- sulphonate] | Not known Unknown guidelines Not known | LD50 Oral | Rat | >4000 mg/kg |
| DHARMASET BORDEAUX | - | LD50 Oral | Rat | >2000 mg/kg |

Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|--|--|------------------|--|
| Chromium as Cr(III) organo-metal complex | OECD 405 Acute Eye Irritation/ Corrosion OECD 404 Acute Dermal Irritation/Corrosion | Rabbit Rabbit | Eyes - Non-irritant. Skin - Non-irritant. |

Conclusion/Summary

Skin

- : Non-irritant. OECD 404
Chromium as Cr(III) organo-metal complex
Disodium 5,5'-[
(1-methylethylidene)bis(4,
1-phenyleneoxysulphonyl-2,
1-phenyleneazo)]bis
[6-amino-4-hydroxynaphthalene-2-sulphonate]
Sodium 2-
[methyloleoylamino]
ethane-1-sulphonate
- : Non-irritating to the skin.
- : No additional information.
- : No additional information.

Eyes

- : Non-irritant. OECD 405
Chromium as Cr(III) organo-metal complex
Disodium 5,5'-[
(1-methylethylidene)bis(4,
1-phenyleneoxysulphonyl-2,
1-phenyleneazo)]bis
[6-amino-4-hydroxynaphthalene-2-sulphonate]
Sodium 2-
[methyloleoylamino]
ethane-1-sulphonate
- : Non-irritating to the eyes.
- : No additional information.
- : No additional information.

Respiratory

- : Chromium as Cr(III) organo-metal complex
Disodium 5,5'-[
(1-methylethylidene)bis(4,
1-phenyleneoxysulphonyl-2,
1-phenyleneazo)]bis
[6-amino-4-hydroxynaphthalene-2-sulphonate]
Sodium 2-
[methyloleoylamino]
ethane-1-sulphonate
- : No additional information.
- : No additional information.
- : No additional information.

Section 11. Toxicological information

Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|-----------------------------|-------------------|------------|-----------------|
| Chromium as Cr(III) organo-metal complex | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |
| Disodium 5,5'-[(1-methylethylidene)bis(4,1-phenyleneoxysulphonyl-2,1-phenyleneazo)]bis[6-amino-4-hydroxynaphthalene-2-sulphonate] | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| DHARMASET BORDEAUX B | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |

Mutagenicity

| Product/ingredient name | Test | Result |
|--|--|----------------------|
| Chromium as Cr(III) organo-metal complex | Subject: Bacteria Experiment: In vitro Subject: Mammalian-Animal | Positive Negative |

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
- Inhalation** : No specific data.

Section 11. Toxicological information

- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

- Other information** : Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Test | Endpoint | Exposure | Species | Result |
|---|---|------------|----------|----------|------------|
| Chromium as Cr(III) organo-metal complex | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | 2.15 mg/l |
| | No official guidelines Internal Method (BST) | Acute IC50 | 3 hours | Bacteria | >180 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 48 hours | Fish | 9 mg/l |
| Disodium 5,5'-(1-methylethylidene)bis(4,1-phenyleneoxysulphonyl-2,1-phenyleneazo)]bis [6-amino-4-hydroxynaphthalene-2-sulphonate] | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | >40.4 mg/l |

Section 12. Ecological information

| | | | | | | | |
|----------------------|---|-------|------|----------|----------|------|------|
| DHARMASET BORDEAUX B | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute | IC50 | 3 hours | Bacteria | >320 | mg/l |
| | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute | EC50 | 48 hours | Daphnia | 7 | mg/l |
| | - | Acute | IC50 | 3 hours | Bacteria | >300 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC0 | 48 hours | Fish | 10 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 48 hours | Fish | 18 | mg/l |

Conclusion/Summary : Toxic to aquatic organisms if run directly to surface waters.

Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|--|---|---------|------------|
| Chromium as Cr(III) organo- metal complex Disodium 5,5'-[(1-methylethylidene)bis(4, 1-phenyleneoxysulphonyl-2, 1-phenyleneazo)]bis [6-amino-4-hydroxynaphthalene-2- sulphonate] DHARMASET BORDEAUX B | OECD 301A Ready Biodegradability - DOC Die-Away Test | 28 days | <2 % |
| | OECD 302C Inherent Biodegradability: Modified MITI Test (II) | 28 days | 0 % |
| | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 30 to 40 % |

Conclusion/Summary : Partially eliminated by adsorption onto effluent treatment sludge.
Disodium 5,5'-[(1-methylethylidene)bis(4, 1-phenyleneoxysulphonyl-2, 1-phenyleneazo)]bis [6-amino-4-hydroxynaphthalene-2-sulphonate] Poorly eliminated by biodegradation

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--|-------------------|------------|---|
| DHARMASET BORDEAUX B Chromium as Cr(III) organo-metal complex Disodium 5,5'-[(1-methylethylidene)bis(4, 1-phenyleneoxysulphonyl-2, 1-phenyleneazo)]bis [6-amino-4-hydroxynaphthalene-2-sulphonate] | - | - | Not readily Not readily Not readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-----|-----------|
| Chromium as Cr(III) organo- metal complex Disodium 5,5'-[(1-methylethylidene)bis(4, 1-phenyleneoxysulphonyl-2, 1-phenyleneazo)]bis [6-amino-4-hydroxynaphthalene-2-sulphonate] | <3 | - | low |
| | <3 | - | low |

Mobility in soil

Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

| | | | |
|------------------------------|--------|--------|--|
| BOD5 | : 210 | mgO2/g | |
| COD | : 1150 | mgO2/g | |
| TOC | : 39.5 | % | |
| Organohalogen content | : 0.02 | % | Chloro |
| Phosphorus Content | : 0 | % | |
| Nitrogen Content | : 7 | % | |
| Metal Content | : 1.8 | % | Chromium as Cr(III) organo-metal complex |
| | : 0.2 | % | Cobalt as organo-metal complex |

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.



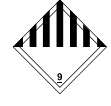





Section 14. Transport information

Proper shipping name

- DOT** : Environmentally hazardous substance, solid, n.o.s. (AZO METAL COMPLEX DYESTUFF) (Chromium as Cr(III) organo-metal complex). Marine pollutant
- TDG** : Environmentally hazardous substance, solid, n.o.s. (AZO METAL COMPLEX DYESTUFF) (Chromium as Cr(III) organo-metal complex). Marine pollutant
- IMDG** : Environmentally hazardous substance, solid, n.o.s. (AZO METAL COMPLEX DYESTUFF). Marine pollutant
- IATA** : Environmentally hazardous substance, solid, n.o.s. (AZO METAL COMPLEX DYESTUFF)

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|------------------------|-----------|---------|-----|-------|------------------------|
| | | | | | |

Section 14. Transport information

| | | | | | |
|----------------------------|--------|---|-----|---|---|
| DOT Classification | UN3077 | 9 | III |   | Marine Pollutant Only regulated in Bulk. |
| TDG Classification | UN3077 | 9 | III |   | - |
| IMDG Classification | UN3077 | 9 | III |   | Emergency schedules (EmS) F-A, S-F |
| IATA Classification | UN3077 | 9 | III |   | Passenger and Cargo Aircraft Quantity limitation: 400 kg Packaging instructions: 956 Cargo Aircraft Only Quantity limitation: 400 kg Packaging instructions: 956 |

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

United States Regulations

TSCA 8(b) inventory : All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

TSCA 5(e) substance consent order : No ingredients listed.

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Immediate (acute) health hazard

Section 15. Regulatory information

| | <u>Product name</u> | <u>Concentration %</u> |
|---|--|------------------------|
| Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) | : Chromium as Cr(III) organo-metal complex | 46.34 |
| | : Cobalt as organo-metal complex | 6.6924 |

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

| | <u>Product name</u> | <u>Concentration %</u> |
|---|--|------------------------|
| SARA 313 Form R - Reporting requirements | : Chromium as Cr(III) organo-metal complex | 46.34 |

| | <u>Ingredient name</u> | <u>%</u> | <u>Section 304 CERCLA Hazardous Substance</u> | <u>CERCLA Reportable Quantity (Lbs)</u> | <u>Product Reportable Quantity (Lbs)</u> |
|------------------------------------|--|----------|---|---|--|
| CERCLA Hazardous substances | : Chromium as Cr(III) organo-metal complex | 46.34 | Listed | No RQ assigned | |
| | : Cobalt as organo-metal complex | 6.6924 | Listed | No RQ assigned | |
| | : Triphosphoric acid, pentasodium salt; | 4.0986 | Listed | 5000 | 121993 |
| | : Triphosphoric acid, sodium salt (1:5); | | | | |
| | : Sodium phosphate; Pentasodium tripolyphosphate | | | | |

State regulations

PENNSYLVANIA - RTK : Chromium as Cr(III) organo-metal complex, Triphosphoric acid, pentasodium salt; Triphosphoric acid, sodium salt (1:5); Sodium phosphate; Pentasodium tripolyphosphate, Sodium sulfate, Cobalt as organo-metal complex

California Prop 65 : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Canadian regulations

CEPA DSL : All components are listed or exempted.

WHMIS Classes : Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil Regulations

Classification system used : Norma ABNT-NBR 14725-2:2012

Section 15. Regulatory information

International lists

- Australia inventory (AICS):** All components are listed or exempted.
- China inventory (IECSC):** All components are listed or exempted.
- Japan inventory:** All components are listed or exempted.
- Korea inventory:** All components are listed or exempted.
- Malaysia Inventory (EHS Register):** Not determined.
- New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
- Philippines inventory (PICCS):** All components are listed or exempted.
- Taiwan inventory (CSNN):** Not determined.

Section 16. Other information

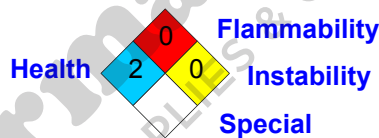
Hazardous Material Information System (U.S.A.) :

| | |
|---------------------|---|
| Health | 2 |
| Flammability | 0 |
| Physical hazards | 0 |
| Personal protection | X |

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



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- Date of printing** : 1/7/2014.
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- Version** : 1

▣ Indicates information that has changed from previously issued version.

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Notice to reader

Section 16. Other information

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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SAFETY DATA SHEET

DHARMASET® RED 2B

Section 1. Identification


GHS product identifier : DHARMASET® RED
Product code 2B : 00041721
Other means of identification : Not available.
Product type : Solid.
Material uses : Textile dye
Supplier's details : Dharma Trading Co.
1805 South McDowell Boulevard Ext.
Petaluma, CA 94954
Customer service telephone: (800) 542-5227
e-mail address of person responsible for this SDS : service@dharmatrading.com
Emergency telephone number (24h/7day) : Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : AQUATIC HAZARD (LONG-TERM) - Category 2

GHS label elements

Hazard pictograms : 

Signal word : No signal word.

Hazard statements : Toxic to aquatic life with long lasting effects.

Precautionary statements : Avoid release to the environment. Collect spillage. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|--|---------|------------|
| ACID RED 407 | 13 - 30 | 72017-66-4 |
| 2-Naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | 7 - 13 | 36290-04-7 |
| Sodium 2-[methyleoleoylamino]ethane-1-sulphonate | 1 - 3 | 137-20-2 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.

Section 4. First aid measures

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Flash point : Closed cup: Not applicable.

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
Carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : Not explosive

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions :

Section 6. Accidental release measures

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| <u>Ingredient name</u> | <u>Exposure limits</u> |
|------------------------|---|
| ACID RED 407 | OSHA PEL (United States, 2/2013). TWA: 0.5 mg/m ³ , (as Cr) 8 hours. |

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: Tightly fitting safety goggles
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): butyl or neoprene
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Respiratory protection, filter P2
- Thermal hazards** : Not available.

Section 9. Physical and chemical properties

- Appearance**
- Physical state** : Solid. [Powder]
- Color** : Red.
- Odor** : Odorless.
- Odor threshold** : Not applicable.
- pH** : 6 to 8 [Conc. (% w/w): 2%]
- Melting point/Freezing point** : Not available.
- Boiling/condensation point** : Not available.
- Flash point** : Closed cup: Not applicable.
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility in water** : Soluble

Section 9. Physical and chemical properties

| | |
|---|--|
| Partition coefficient: n-octanol/water | : Not available. |
| Auto-ignition temperature | : Not available. |
| Decomposition temperature | : >200°C (>392°F) |
| Ignition Temperature (Deg C) : SIT > 450 *ASTM-D1929B | : 400 °C |
| Explosive properties | : Not explosive |
| Oxidizing properties | : None. |
| Density | : 0.4 to 0.5 g/cm ³ [20°C (68°F)] |
| Viscosity | : Dynamic (room temperature): Not applicable. Kinematic (room temperature): Not applicable. |

Section 10. Stability and reactivity

| | |
|---|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : No specific data. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|--|---------------------------------|-----------|---------|-------------|
| ACID RED 407 | Unknown guidelines Not known | LD50 Oral | Rat | >2000 mg/kg |
| 2-Naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | No official guidelines | LD50 Oral | Mouse | 4880 mg/kg |
| DHARMASET RED 2B | - | LD50 Oral | Rat | >2000 mg/kg |

Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|-------------------------|--|---------|----------------------|
| DHARMASET RED 2B | OECD 405 Acute Eye Irritation/Corrosion | Rabbit | Eyes - Non-irritant. |
| | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Non-irritant. |

Conclusion/Summary

Section 11. Toxicological information

| | | | |
|--------------------|--|--|----------------------------|
| Skin | : | Non-irritating to the skin. | |
| | | ACID RED 407 | No additional information. |
| | | 2-Naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | No additional information. |
| Eyes | : | Non-irritating to the eyes. | |
| | | ACID RED 407 | No additional information. |
| | | 2-Naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | No additional information. |
| Respiratory | : | Non-irritating to the eyes. | |
| | | Sodium 2-[methyloleoylamino] ethane-1-sulphonate | No additional information. |
| | | ACID RED 407 | No additional information. |
| | 2-Naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | No additional information. | |
| | Sodium 2-[methyloleoylamino] ethane-1-sulphonate | No additional information. | |

Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|-------------------------|-----------------------------|-------------------|------------|-----------------|
| ACID RED 407 | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |

Mutagenicity

| Product/ingredient name | Test | Result |
|--|-------------------------|----------|
| 2-Naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | Subject: bacteria/yeast | Negative |

Carcinogenicity

Not available.

Carcinogenic class

| Product/ingredient name | IARC | OSHA |
|-------------------------|------|------|
| ACID RED 407 | 3 | - |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Section 11. Toxicological information

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 11. Toxicological information

Other information : Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Test | Endpoint | Exposure | Species | Result |
|--|--|------------|----------|----------|----------------|
| ACID RED 407 | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | 33.4 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >300 mg/l |
| | Unknown guidelines Not known | Acute LC50 | 48 hours | Fish | 0.6 mg/l |
| | No official guidelines | Acute EC50 | 48 hours | Daphnia | 37 mg/l |
| | No official guidelines | Acute EC50 | 48 hours | Daphnia | 9.9 to 15 mg/l |
| | OECD OECD 202 screening | Acute EC50 | 48 hours | Daphnia | 39 mg/l |
| 2-Naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >1000 mg/l |
| | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | >30 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | 281 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 96 hours | Fish | 3 mg/l |
| | | | | | |
| | | | | | |
| DHARMASET RED 2B | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | >30 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | 281 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 96 hours | Fish | 3 mg/l |
| | | | | | |

Conclusion/Summary : Toxic to aquatic organisms if run directly to surface waters.

Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|-------------------------|--|---------|------------|
| ACID RED 407 | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 0 % |
| | No official guidelines | 28 days | <60 % |
| | OECD 302C Inherent Biodegradability: Modified MITI Test (II) | 28 days | <5 % |
| DHARMASET RED 2B | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 30 to 40 % |
| | | | |

Conclusion/Summary : Partially eliminated by adsorption onto effluent treatment sludge.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--|-------------------|------------|------------------|
| DHARMASET RED 2B | - | - | Not readily |
| ACID RED 407 | - | - | Not readily |
| 2-Naphthalenesulfonic acid, polymer with formaldehyde, sodium salt | - | - | Not readily |

Section 12. Ecological information

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| ACID RED 407 | <3 | - | low |

Mobility in soil

Not available.

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

| | | | |
|------------------------------|-------------------|--------|--|
| BOD5 | : 190 | mgO2/g | |
| COD | : 1025 | mgO2/g | |
| TOC | : Not determined. | | |
| Organohalogen content | : 2.3 | % | Chloro |
| Phosphorus Content | : 0 | % | |
| Nitrogen Content | : 3.8 | % | |
| Metal Content | : 1.2 | % | Chromium as Cr(III) organo-metal complex |

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Proper shipping name

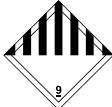

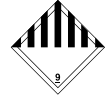





DOT : Environmentally hazardous substance, solid, n.o.s. Chromium complex monoazo dyestuff. Marine pollutant

TDG : Environmentally hazardous substance, solid, n.o.s. Chromium complex monoazo dyestuff. Marine pollutant

IMDG : Environmentally hazardous substance, solid, n.o.s. Chromium complex monoazo dyestuff Marine pollutant

IATA : Environmentally hazardous substance, solid, n.o.s. (CHROMIUM COMPLEX MONOAZO DYESTUFF)

Section 14. Transport information

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|----------------------------|-----------|---------|-----|--|---|
| DOT Classification | UN3077 | 9 | III |   | -not regulated in bulk |
| TDG Classification | UN3077 | 9 | III |   | - |
| IMDG Classification | UN3077 | 9 | III |   | Emergency schedules (EmS) F-A S-F |
| IATA Classification | UN3077 | 9 | III |   | Passenger and Cargo Aircraft Quantity limitation: 400 kg Packaging instructions: 956 Cargo Aircraft Only Quantity limitation: 400 kg Packaging instructions: 956 |

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

United States Regulations

TSCA 8(b) inventory : All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

TSCA 5(e) substance consent order : No ingredients listed.

Section 15. Regulatory information

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Not classified.

| | <u>Product name</u> | <u>Concentration %</u> |
|---|--|------------------------|
| Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) | : Chromate(2-), [4-(5-chloro-2-hydroxy-3-nitrophenyl)azo]-2, 4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)]-[3-[[1-(3-chlorophenyl)-4, 5-dihydro-3-methyl-5-oxo-1H-pyrazol-4-yl]azo]-4-hydroxy-5-nitrobenzenesulfonato(3-)]-, disodium salt | 23.27 |

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

| | <u>Product name</u> | <u>Concentration %</u> |
|---|---------------------|------------------------|
| SARA 313 Form R - Reporting requirements | : ACID RED 407 | 23.27 |

| | <u>Ingredient name</u> | <u>%</u> | <u>Section 304 CERCLA Hazardous Substance</u> | <u>CERCLA Reportable Quantity (Lbs)</u> | <u>Product Reportable Quantity (Lbs)</u> |
|------------------------------------|------------------------|----------|---|---|--|
| CERCLA Hazardous substances | : ACID RED 407 | 23.27 | Listed | No RQ assigned | |

State regulations

PENNSYLVANIA - RTK : Chromate(2-), [4-[(5-chloro-2-hydroxy-3-nitrophenyl)azo]-2, 4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-onato(2-)]-[3-[[1-(3-chlorophenyl)-4, 5-dihydro-3-methyl-5-oxo-1H-pyrazol-4-yl]azo]-4-hydroxy-5-nitrobenzenesulfonato(3-)]-, disodium salt

California Prop 65 : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Canadian regulations

CEPA DSL : All components are listed or exempted.

WHMIS Classes : Not controlled under WHMIS (Canada).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil Regulations

Classification system used : Norma ABNT-NBR 14725-2:2012

Section 15. Regulatory information

International lists

- Australia inventory (AICS):** All components are listed or exempted.
- China inventory (IECSC):** All components are listed or exempted.
- Japan inventory:** All components are listed or exempted.
- Korea inventory:** All components are listed or exempted.
- Malaysia Inventory (EHS Register):** Not determined.
- New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
- Philippines inventory (PICCS):** All components are listed or exempted.
- Taiwan inventory (CSNN):** Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

| | |
|---------------------|---|
| Health | 0 |
| Flammability | 0 |
| Physical hazards | 0 |
| Personal protection | X |

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



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- Date of printing** : 9/24/2014.
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- Date of previous issue** : 1/23/2014.
- Version** : 2

✔ Indicates information that has changed from previously issued version.

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Notice to reader

Section 16. Other information

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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SAFETY DATA SHEET

DHARMASET® VIOLET B

Section 1. Identification

GHS product identifier : DHARMASET®
Product code : VIOLET B : 00041693
Other means of identification : Not available.
Product type : Solid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Textile dye

Supplier's details

Dharma Trading Co.
1805 South McDowell Boulevard Ext.
Petaluma, CA 9495477387
Customer service telephone: (800) 542-5227

e-mail address of person responsible for this SDS : service@dharmatrading.com

Emergency telephone number (24h/7day) : Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : AQUATIC HAZARD (LONG-TERM) - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 2%
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 2%

GHS label elements

Signal word : No signal word.

Hazard statements : Harmful to aquatic life with long lasting effects.

Precautionary statements : Avoid release to the environment. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|--|---------|---------------------------|
| Sodium 2-[methyleoleoylamino]ethane-1-sulphonate | 1 - 3 | 137-20-2 |
| Citric acid | 0.1 - 1 | 77-92-9 |
| Cobalt as organo-metal complex | 0.1 - 1 | 70851-34-2, 73612-41-6 |
| Chromium as Cr(III) organo-metal complex | 0.1 - 1 | 41741-86-0 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.

Section 4. First aid measures

- Skin contact** : No specific data.
Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.
Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

- Flash point** : Not available.

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

- Unsuitable extinguishing media** : None known.

- Specific hazards arising from the chemical** : This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions :

Section 6. Accidental release measures

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|--|---|
| Chromium as Cr(III) organo-metal complex | OSHA PEL (United States, 6/2010). TWA: 0.5 mg/m ³ , (as Cr) 8 hours. |

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): butyl or neoprene
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Respiratory protection, filter P2
- Thermal hazards** : Not available.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. [Powder]
- Color** : Violet.
- Odor** : Odorless.
- Odor threshold** : Not available.
- pH** : 6 to 7 [Conc. (% w/w): 2%]
- Melting point/Freezing point** : Not available.
- Boiling/condensation point** : Not available.
- Flash point** : Not available.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility in water** : Not available.
- Water Solubility Result** : 60 g/l 30 deg C

Section 9. Physical and chemical properties

| | |
|---|--|
| Partition coefficient: n-octanol/water | : Not available. |
| Auto-ignition temperature | : Not available. |
| Decomposition temperature | : >135°C (>275°F) |
| Ignition Temperature (Deg C) : SIT > 450 *ASTM-D1929B | : 460 °C |
| Oxidizing properties | : None. |
| Density | : 0.53 g/cm ³ [20°C (68°F)] |
| Viscosity | : Not available. |

Section 10. Stability and reactivity

| | |
|---|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : No specific data. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|--|--------------------------------|-------------|--------------------|-------------|
| Citric acid | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rat - Male, Female | >2000 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 5400 mg/kg |
| Cobalt as organo-metal complex | Unknown guidelines Not known | LD50 Oral | Rat | 3900 mg/kg |
| Chromium as Cr(III) organo-metal complex | Unknown guidelines Not known | LD50 Oral | Rat | >5000 mg/kg |
| DHARMASET VIOLET B | - | LD50 Oral | Rat | >5000 mg/kg |

Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|-------------------------|--|---------|----------------------|
| Citric acid | OECD 405 Acute Eye Irritation/Corrosion | Rabbit | Eyes - Irritant |
| | OECD 404 Acute Dermal Irritation/Corrosion | Rabbit | Skin - Non-irritant. |

Section 11. Toxicological information

Conclusion/Summary

| | | |
|--------------------|--|-----------------------------|
| Skin | : Non-irritant. Rabbit | |
| | Sodium 2-[methyloleoylamino] ethane-1-sulphonate | No additional information. |
| | Citric acid | Non-irritating to the skin. |
| | Cobalt as organo-metal complex | No additional information. |
| | Chromium as Cr(III) organo-metal complex | No additional information. |
| Eyes | : Non-irritant. Rabbit | |
| | Sodium 2-[methyloleoylamino] ethane-1-sulphonate | No additional information. |
| | Citric acid | Irritating to eyes. |
| | Cobalt as organo-metal complex | No additional information. |
| | Chromium as Cr(III) organo-metal complex | No additional information. |
| Respiratory | : Sodium 2-[methyloleoylamino] ethane-1-sulphonate | No additional information. |
| | Citric acid | No additional information. |
| | Cobalt as organo-metal complex | No additional information. |
| | Chromium as Cr(III) organo-metal complex | No additional information. |

Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|--|---|-------------------|------------|-------------|
| Cobalt as organo-metal complex | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| Chromium as Cr(III) organo-metal complex | No official guidelines Buehler or maximization test | skin | Guinea pig | Sensitizing |

Mutagenicity

| Product/ingredient name | Test | Result |
|-------------------------|---|----------|
| Citric acid | Experiment: In vitro Subject: Mammalian-Human | Positive |
| | Experiment: In vitro Subject: Bacteria | Negative |
| | Metabolic activation: +/- Experiment: In vivo Subject: Mammalian-Animal | Negative |
| | Experiment: In vivo Subject: Mammalian-Animal | Negative |

Carcinogenicity

Conclusion/Summary :

Section 11. Toxicological information

Citric acid

In accordance with column 2 of Annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted.

Carcinogenic class

| Product/ingredient name | IARC | OSHA |
|--|------|------|
| Chromium as Cr(III) organo-metal complex | 3 | - |

Reproductive toxicity

Conclusion/Summary :

Citric acid

In accordance with column 2 of Annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted.

Teratogenicity

Conclusion/Summary :

Citric acid

In accordance with section 1 of Regulation (EC) No 1907/2006, Annex XI, this test does not appear scientifically necessary.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact :** No known significant effects or critical hazards.
- Inhalation :** Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact :** No known significant effects or critical hazards.
- Ingestion :** No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact :** No specific data.
- Inhalation :** No specific data.
- Skin contact :** No specific data.
- Ingestion :** No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects :** Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary :

Citric acid

In accordance with section 1 of Regulation (EC) No 1907/2006, Annex XI, this test does not appear scientifically necessary.

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information : Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Test | Endpoint | Exposure | Species | Result |
|--------------------------------|--|--------------|-----------------|----------|-----------------|
| Citric acid | Unknown guidelines | Acute LC50 | 24 hours Static | Daphnia | 1535 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 48 hours Static | Fish | 440 to 760 mg/l |
| | No official guidelines | Chronic NOEC | 8 days Static | Algae | 425 mg/l |
| Cobalt as organo-metal complex | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | 30.5 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >320 mg/l |
| DHARMASET VIOLET B | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 96 hours | Fish | 0.52 mg/l |
| | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | >68 mg/l |

Section 12. Ecological information

| | | | | | | | |
|--|--|----------------|--------------|---------------------|------------------|------------|--------------|
| | - OECD 203 Fish, Acute Toxicity Test | Acute Acute | IC50 LC50 | 3 hours 48 hours | Bacteria Fish | >300 40 | mg/l mg/l |
|--|--|----------------|--------------|---------------------|------------------|------------|--------------|

Conclusion/Summary : Harmful to aquatic organisms if run directly to surface waters.

Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|--|---|---------|------------|
| Citric acid | OECD 301E Ready Biodegradability - Modified OECD Screening Test | 19 days | 100 % |
| | OECD 301B Ready Biodegradability - CO ₂ Evolution Test | 28 days | 97 % |
| Cobalt as organo-metal complex DHARMASET VIOLET B | OECD OECD 302B modified | 14 days | 85 % |
| | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 0.3 % |
| | OECD 303A Simulation Test - Aerobic Sewage Treatment - Activated Sludge Units | 28 days | 80 to 90 % |

Conclusion/Summary : Eliminated by adsorption onto effluent treatment sludge.
Citric acid Readily biodegradable

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--------------------------------|-------------------|------------|------------------|
| DHARMASET VIOLET B | - | - | Not readily |
| Citric acid | - | - | Inherent |
| Cobalt as organo-metal complex | - | - | Not readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-----|-----------|
| Citric acid | -0.76 to -0.12 | - | low |
| Cobalt as organo-metal complex | <3 | - | low |
| Chromium as Cr(III) organo-metal complex | <3 | - | low |

Mobility in soil

Not available.

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

| | | | |
|------------------------------|--------|---------------------|--|
| BOD5 | : 50 | mgO ₂ /g | |
| COD | : 1100 | mgO ₂ /g | |
| TOC | : 41 | % | |
| Organohalogen content | : 3.4 | % | Chloro |
| Phosphorus Content | : 0 | % | |
| Nitrogen Content | : 5.2 | % | |
| Metal Content | : 100 | ppm | Chromium as Cr(III) organo-metal complex |
| | : 46 | ppm | Cobalt as organo-metal complex |

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Proper shipping name

DOT : Not regulated.
TDG : Not regulated.
IMDG : Not regulated.
IATA : Not regulated.

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|----------------------------|----------------|---------|-----|-------|------------------------|
| DOT Classification | Not regulated. | - | - | | - |
| TDG Classification | Not regulated. | - | - | | - |
| IMDG Classification | Not regulated. | - | - | | - |
| IATA Classification | Not regulated. | - | - | | - |

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

United States Regulations

TSCA 8(b) inventory : All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

Section 15. Regulatory information

TSCA 5(e) substance consent order : No ingredients listed.

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Not classified.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : No ingredients listed.

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

| | <u>Product name</u> | <u>Concentration %</u> |
|---|----------------------------------|------------------------|
| SARA 313 Form R - Reporting requirements | : Cobalt as organo-metal complex | 0.18128 |

| | <u>Ingredient name</u> | <u>%</u> | <u>Section 304 CERCLA Hazardous Substance</u> | <u>CERCLA Reportable Quantity (Lbs)</u> | <u>Product Reportable Quantity (Lbs)</u> |
|------------------------------------|---|-------------|---|---|--|
| CERCLA Hazardous substances | : Cobalt as organo-metal complex | 0.18128 | Listed | | |
| | : Chromium as Cr(III) organo-metal complex | 0.16946 | Listed | No RQ assigned | |
| | : Triphosphoric acid, pentasodium salt; Triphosphoric acid, sodium salt (1:5); Sodium phosphate; Pentasodium tripolyphosphate | 0.0025 | Listed | 5000 | 200000000 |
| | : Formaldehyde | 0.000150254 | Listed | 100 | 66553969 |

State regulations

PENNSYLVANIA - RTK : No ingredients listed.

California Prop 65 : **WARNING:** This product contains a chemical known to the State of California to cause cancer.

| <u>Ingredient name</u> | <u>Cancer</u> | <u>Reproductive</u> |
|--------------------------------------|---------------|---------------------|
| Mixture of hydrocarbons ex petroleum | Yes. | No. |
| Formaldehyde | Yes. | No. |

Canadian regulations

CEPA DSL : All components are listed or exempted.

Section 15. Regulatory information

WHMIS Classes : Not controlled under WHMIS (Canada).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil Regulations

Classification system used : Norma ABNT-NBR 14725-2:2012

International lists

: **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): At least one component is not listed.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Section 16. Other information

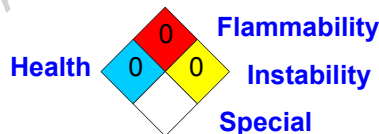
Hazardous Material Information System (U.S.A.) :

| | |
|---------------------|---|
| Health | 0 |
| Flammability | 0 |
| Physical hazards | 0 |
| Personal protection | |

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



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Date of printing : 12/3/2013.
Date of issue : 12/3/2013.
Date of previous issue : No previous validation.
Version : 1

Section 16. Other information

✔ Indicates information that has changed from previously issued version.

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ON
FABRIC

SAFETY DATA SHEET

DHARMASET® YELLOW 2R GR

Section 1. Identification

GHS product identifier : DHARMASET® YELLOW 2R
Product code GR : 00043661
Other means of identification : Not available.
Product type : Solid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Textile dye

Supplier's details

Dharma Trading Co.

1805 South McDowell Boulevard Ext.

Petaluma, CA 94954

Customer service telephone: (800) 542-5227

e-mail address of person responsible for this SDS

service@dharmatrading.com

Emergency telephone number (24h/7day)

: Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN SENSITIZATION - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms



Signal word

: Warning

Hazard statements

: May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.

Precautionary statements

: Wear protective gloves: < 1 hour (breakthrough time): butyl or neoprene. Avoid release to the environment. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 2. Hazards identification

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|--|---------|---------------------------|
| Cobalt as organo-metal complex | 13 - 30 | 70851-34-2, 73612-41-6 |
| Chromium as Cr(III) organo-metal complex | 13 - 30 | 41741-86-0 |
| PARAFFIN OILS | 1 - 3 | 8012-95-1 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.

Section 4. First aid measures

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Flash point : Not available.

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : Not explosive

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|--|--|
| Chromium as Cr(III) organo-metal complex | OSHA PEL (United States, 6/2010). TWA: 0.5 mg/m ³ , (as Cr) 8 hours. |
| PARAFFIN OILS | ACGIH TLV (United States, 3/2012). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction OSHA PEL (United States, 6/2010). TWA: 5 mg/m ³ 8 hours. |

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): butyl or neoprene
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Respiratory protection, filter P2
- Thermal hazards** : Not available.

Section 9. Physical and chemical properties

Appearance

| | | |
|---|---|----------|
| Physical state | : Solid. [granules] | |
| Color | : Yellow. | |
| Odor | : Odorless. | |
| Odor threshold | : Not applicable. | |
| pH | : 6.5 to 7.5 [Conc. (% w/w): 0.1%] | |
| Melting point/Freezing point | : Not available. | |
| Boiling/condensation point | : Not available. | |
| Flash point | : Not available. | |
| Evaporation rate | : Not applicable. | |
| Flammability (solid, gas) | : Not available. | |
| Lower and upper explosive (flammable) limits | : Not available. | |
| Vapor pressure | : Not available. | |
| Vapor density | : Not available. | |
| Relative density | : Not available. | |
| Solubility in water | : Not available. | |
| Water Solubility Result | : 100 g/l | 30 deg C |
| Partition coefficient: n-octanol/water | : Not available. | |
| Auto-ignition temperature | : Not available. | |
| Decomposition temperature | : >200°C (>392°F) | |
| Explosive properties | : Not explosive | |
| Oxidizing properties | : None. | |
| Density | : 0.7 to 0.8 g/cm ³ [20°C (68°F)] | |
| Viscosity | : Dynamic (room temperature): Not applicable. | |

Section 10. Stability and reactivity

| | |
|---|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : No specific data. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|--|---------------------------------|---------------------------------|---------|-------------|
| Cobalt as organo-metal complex | Unknown guidelines Not known | LD50 Oral | Rat | 3900 mg/kg |
| Chromium as Cr(III) organo-metal complex | Unknown guidelines Not known | LD50 Oral | Rat | >5000 mg/kg |
| PARAFFIN OILS | - | LC50 Inhalation Dusts and mists | Rat | 2062 mg/l |
| DHARMASET YELLOW 2R GR | - | LD50 Oral | Rat | 22000 mg/kg |
| | - | LD50 Oral | Rat | >2000 mg/kg |

Irritation/Corrosion

Conclusion/Summary

- Skin** : Non-irritant. The toxicological data is based on a product with comparable composition.
- Cobalt as organo-metal complex : No additional information.
- Chromium as Cr(III) organo-metal complex : No additional information.
- PARAFFIN OILS : No additional information.
- Eyes** : Non-irritant. The toxicological data is based on a product with comparable composition.
- Cobalt as organo-metal complex : No additional information.
- Chromium as Cr(III) organo-metal complex : No additional information.
- PARAFFIN OILS : No additional information.
- Respiratory** : Cobalt as organo-metal complex : No additional information.
- Chromium as Cr(III) organo-metal complex : No additional information.
- PARAFFIN OILS : No additional information.

Sensitization

| Product/ingredient name | Test | Route of exposure | Species | Result |
|--|--|-------------------|------------|-------------|
| Cobalt as organo-metal complex | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| Chromium as Cr(III) organo-metal complex | No official guidelines Buehler or maximization test | skin | Guinea pig | Sensitizing |
| DHARMASET YELLOW 2R GR | No official guidelines Buehler or maximization test | skin | Guinea pig | Sensitizing |

Mutagenicity

Not available.

Carcinogenicity

Section 11. Toxicological information

Not available.

Carcinogenic class

| Product/ingredient name | IARC | OSHA |
|--|------|------|
| Chromium as Cr(III) organo-metal complex | 3 | - |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Section 11. Toxicological information

Potential chronic health effects

- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information : Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Test | Endpoint | Exposure | Species | Result |
|--------------------------------|--|-------------|----------|----------|------------|
| Cobalt as organo-metal complex | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | Daphnia | 30.5 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >320 mg/l |
| PARAFFIN OILS | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 96 hours | Fish | 0.52 mg/l |
| | Unknown guidelines Not known | Acute LC0 | 96 hours | Fish | >1000 mg/l |
| | Unknown guidelines Not known | Acute LC100 | 96 hours | Fish | >1000 mg/l |
| DHARMASET YELLOW 2R GR | Unknown guidelines Not known | Acute LC50 | 96 hours | Fish | >1000 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >320 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 96 hours | Fish | 15 mg/l |

Conclusion/Summary : Harmful to aquatic organisms if run directly to surface waters. Commercial product tested.

Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|--------------------------------|---|---------|--------|
| Cobalt as organo-metal complex | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 0.3 % |
| DHARMASET YELLOW 2R GR | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | >90 % |

Conclusion/Summary : Eliminated by adsorption onto effluent treatment sludge.

Section 12. Ecological information

Cobalt as organo-metal complex
 Chromium as Cr(III) organo-metal complex

Poorly eliminated by adsorption on effluent treatment sludge.
 Partially eliminated by adsorption onto effluent treatment sludge.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-------------------|------------|----------------------------|
| DHARMASET YELLOW 2R GR Cobalt as organo-metal complex | - - | - - | Not readily Not readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|-----|-----------|
| Cobalt as organo-metal complex | <3 | - | low |
| Chromium as Cr(III) organo-metal complex | <3 | - | low |

Mobility in soil

Not available.

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

| | | | |
|------------------------------|--------|---------------------|--|
| BOD5 | : 260 | mgO ₂ /g | |
| COD | : 1125 | mgO ₂ /g | |
| TOC | : 42.2 | % | |
| Organohalogen content | : 0.9 | % | Chloro |
| Phosphorus Content | : 0.6 | % | as phosphate |
| Nitrogen Content | : 4 | % | |
| Metal Content | : 1.4 | % | Chromium as Cr(III) organo-metal complex |
| | : 0.7 | % | Cobalt as organo-metal complex |

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Proper shipping name

DOT : Not regulated.
TDG : Not regulated.
IMDG : Not regulated.
IATA : Not regulated.

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|----------------------------|----------------|---------|-----|-------|------------------------|
| DOT Classification | Not regulated. | - | - | | - |
| TDG Classification | Not regulated. | - | - | | - |
| IMDG Classification | Not regulated. | - | - | | - |
| IATA Classification | Not regulated. | - | - | | - |

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

United States Regulations

TSCA 8(b) inventory : All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

TSCA 5(e) substance consent order : No ingredients listed.

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Immediate (acute) health hazard

| | <u>Product name</u> | <u>Concentration %</u> |
|---|--|------------------------|
| Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) | Cobalt as organo-metal complex | 18.128 |
| | Chromium as Cr(III) organo-metal complex | 16.946 |

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

Section 15. Regulatory information

| | <u>Product name</u> | <u>Concentration %</u> |
|---|--|------------------------|
| SARA 313 Form R - Reporting requirements | : Cobalt as organo-metal complex | 18.128 |
| | : Chromium as Cr(III) organo-metal complex | 16.946 |

| | <u>Ingredient name</u> | <u>%</u> | <u>Section 304 CERCLA Hazardous Substance</u> | <u>CERCLA Reportable Quantity (Lbs)</u> | <u>Product Reportable Quantity (Lbs)</u> |
|------------------------------------|--|----------|---|---|--|
| CERCLA Hazardous substances | : Cobalt as organo-metal complex | 18.128 | Listed | No RQ assigned | |
| | : Chromium as Cr(III) organo-metal complex | 16.946 | Listed | No RQ assigned | |

State regulations

PENNSYLVANIA - RTK : Cobalt as organo-metal complex, Mixture of hydrocarbons ex petroleum, Chromium as Cr(III) organo-metal complex

California Prop 65 : **WARNING:** This product contains a chemical known to the State of California to cause cancer.

| <u>Ingredient name</u> | <u>Cancer</u> | <u>Reproductive</u> |
|------------------------|---------------|---------------------|
| PARAFFIN OILS | Yes. | No. |

Canadian regulations

CEPA DSL : All components are listed or exempted.

WHMIS Classes : Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil Regulations

Classification system used : Norma ABNT-NBR 14725-2:2012

International lists

: **Australia inventory (AICS):** All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Section 16. Other information

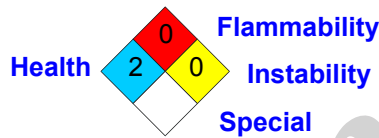
Hazardous Material Information System (U.S.A.) :

| | |
|---------------------|---|
| Health | 2 |
| Flammability | 0 |
| Physical hazards | 0 |
| Personal protection | X |

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :



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Version : 1

▣ Indicates information that has changed from previously issued version.

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Section 16. Other information

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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Dharma Trading
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SAFETY DATA SHEET

DHARMASET® YELLOW 4GN

Section 1. Identification

GHS product identifier : DHARMASET® YELLOW
Product code 4GN : 00042219
Other means of identification : Not available.
Product type : Solid.
Material uses : Textile dye
Supplier's details Dharma Trading Co.
1805 South McDowell Boulevard Ext.
Petaluma, CA 94954
Customer service telephone: (800) 542-5227
e-mail address of person responsible for this SDS : service@dharmatrading.com
Emergency telephone number (24h/7day) : Chemtrec: (800) 424-9300 or (703) 527-3887

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.

Precautionary statements : Wear protective gloves: < 1 hour (breakthrough time): butyl or neoprene. In case of inadequate ventilation wear respiratory protection: Recommended: Respiratory protection, filter P3. Avoid release to the environment. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 2. Hazards identification

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|--|---------|------------|
| Disodium 1,1'-isopropylidenedi-p-phenylenebis[2-[[5-amino-3-methyl-1-(3-sulphonatophenyl)-1H-pyrazol-5-yl]azo]benzenesulphonate] | 30 - 60 | 72828-69-4 |
| Sodium 4-(4-((5-((2-Bromo-1-oxo-2-propenyl)amino)-2-sulfophenyl)azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate | 7 - 13 | 70247-70-0 |
| Sodium 4-chloro-3-[4-[[5-chloro-2-(2-chlorophenoxy)phenyl]azo]-4,5-dihydro-3-methyl-5-oxo-1H-pyrazol-1-yl]benzenesulphonate | 3 - 7 | 72479-28-8 |
| PARAFFIN OILS | 1 - 3 | 8012-95-1 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.

Skin contact

: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Flash point : Closed cup: Not applicable.

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical

: This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products

: Decomposition products may include the following materials:
carbon dioxide
Carbon monoxide
nitrogen oxides
sulfur oxides
phosphorus oxides
halogenated compounds
metal oxide/oxides

Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remark** : Not explosive

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.
- Methods and materials for containment and cleaning up** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** :

Section 7. Handling and storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|-----------------|--|
| PARAFFIN OILS | ACGIH TLV (United States, 6/2013). TWA: 5 mg/m ³ 8 hours. Form: Inhalable fraction OSHA PEL (United States, 2/2013). TWA: 5 mg/m ³ 8 hours. |

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. < 1 hour (breakthrough time): butyl or neoprene

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 8. Exposure controls/personal protection

- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Respiratory protection, filter P3
- Thermal hazards** : Not available.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. [granules]
- Color** : Orange.
- Odor** : Odorless.
- Odor threshold** : Not applicable.
- pH** : 8.5 to 9 [Conc. (% w/w): 2%]
- Melting point/Freezing point** : Not available.
- Boiling/condensation point** : Not available.
- Flash point** : Closed cup: Not applicable.
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility in water** : Not available.
- Water Solubility Result** : 100 g/l 30 deg C
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : >190°C (>374°F)
- Ignition Temperature (Deg C) : SIT > 450 *ASTM-D1929B** : 450 °C
- Explosive properties** : Not explosive
- Oxidizing properties** : None.
- Density** : 0.7 to 0.8 g/cm³ [20°C (68°F)]
- Viscosity** : Dynamic (room temperature): Not applicable.
Kinematic (room temperature): Not applicable.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

Section 10. Stability and reactivity

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|------------------------------|---------------------------------|---------|--------------|
| Disodium 1,1'-isopropylidenedi-p-phenylenebis[2-[5-amino-3-methyl-1-(3-sulphonatophenyl)-1H-pyrazol-5-yl]azo]benzenesulphonate] | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat | >5000 mg/kg |
| Sodium 4-chloro-3-[4-[5-chloro-2-(2-chlorophenoxy)phenyl]azo]-4,5-dihydro-3-methyl-5-oxo-1H-pyrazol-1-yl]benzenesulphonate | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat | >15000 mg/kg |
| PARAFFIN OILS | - | LC50 Inhalation Dusts and mists | Rat | 2062 mg/l |
| DHARMASET YELLOW 4GN | - | LD50 Oral | Rat | 22000 mg/kg |
| | - | LD50 Oral | Rat | >5000 mg/kg |

Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|-------------------------|------|---------|----------------------|
| DHARMASET YELLOW 4GN | - | Rabbit | Eyes - Non-irritant. |
| | - | Rabbit | Skin - Non-irritant. |

Conclusion/Summary

Skin

: Non-irritating to the skin.

Disodium 1,1'-isopropylidenedi-p-phenylenebis[2-[5-amino-3-methyl-1-(3-sulphonatophenyl)-1H-pyrazol-5-yl]azo]benzenesulphonate] No additional information.

Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulfo)phenyl)azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate No additional information.

Sodium 4-chloro-3-[4-[5-chloro-2-

Section 11. Toxicological information

(2-chlorophenoxy)phenyl]
azo]-4,
5-dihydro-3-methyl-5-oxo-1H-
pyrazol-1-yl]
benzenesulphonate
PARAFFIN OILS No additional information.

Eyes

: Non-irritating to the eyes.
Disodium 1,1'-
isopropylidenedi-p-
phenylenebis[2-[
[5-amino-3-methyl-1-
(3-sulphonatophenyl)-1H-
pyrazol-5-yl]azo]
benzenesulphonate] No additional information.
Sodium 4-(4-((5-(
(2-Bromo-1-oxo-2-propenyl)
amino)-2-sulfophenyl)
azo)-3-methylpyrazolon-1-yl)-2,
5-dichlorobenzenesulfonate
Sodium 4-chloro-3-[4-[
[5-chloro-2-
(2-chlorophenoxy)phenyl]
azo]-4,
5-dihydro-3-methyl-5-oxo-1H-
pyrazol-1-yl]
benzenesulphonate
PARAFFIN OILS No additional information.

Respiratory

: Disodium 1,1'-
isopropylidenedi-p-
phenylenebis[2-[
[5-amino-3-methyl-1-
(3-sulphonatophenyl)-1H-
pyrazol-5-yl]azo]
benzenesulphonate] No additional information.
Sodium 4-(4-((5-(
(2-Bromo-1-oxo-2-propenyl)
amino)-2-sulfophenyl)
azo)-3-methylpyrazolon-1-yl)-2,
5-dichlorobenzenesulfonate
Sodium 4-chloro-3-[4-[
[5-chloro-2-
(2-chlorophenoxy)phenyl]
azo]-4,
5-dihydro-3-methyl-5-oxo-1H-
pyrazol-1-yl]
benzenesulphonate
PARAFFIN OILS No additional information.

Sensitization

Section 11. Toxicological information

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|-----------------------------|-------------------|------------|-----------------|
| Disodium 1,1'-isopropylidenedi-p-phenylenebis[2-[5-amino-3-methyl-1-(3-sulphonatophenyl)-1H-pyrazol-5-yl]azo]benzenesulphonate] | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |
| Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulfo-phenyl)azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |
| Sodium 4-chloro-3-[4-[5-chloro-2-(2-chlorophenoxy)phenyl]azo]-4,5-dihydro-3-methyl-5-oxo-1H-pyrazol-1-yl]benzenesulphonate | OECD 406 Skin Sensitization | skin | Guinea pig | Not sensitizing |
| DHARMASET YELLOW 4GN | OECD 406 Skin Sensitization | skin | Guinea pig | Sensitizing |

Conclusion/Summary

Respiratory

: This dyestuff contains C.I. Reactive Yellow 39 for which cases of respiratory sensitisation have been observed. Care should be taken to avoid inhalation. Should an individual become sensitized a physician should be consulted and all contact with reactive dyes must cease immediately.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Section 11. Toxicological information

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
- Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Potential chronic health effects

- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

- Other information** : Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Test | Endpoint | Exposure | Species | Result |
|---|--|-------------|----------|----------------|------------|
| Disodium 1,1'-isopropylidenedi-p-phenylenebis[2-[5-amino-3-methyl-1-(3-sulphonatophenyl)-1H-pyrazol-5-yl]azo]benzenesulphonate] | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | <i>Daphnia</i> | >51.1 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >320 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 48 hours | Fish | 13 mg/l |
| | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute NOEC | 48 hours | <i>Daphnia</i> | 25.4 mg/l |
| Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulfophenyl)azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | <i>Daphnia</i> | >189 mg/l |
| | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >320 mg/l |
| Sodium 4-chloro-3-[4-[5-chloro-2-(2-chlorophenoxy)phenyl]azo]-4,5-dihydro-3-methyl-5-oxo-1H-pyrazol-1-yl]benzenesulphonate | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute EC50 | 48 hours | <i>Daphnia</i> | >18 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 48 hours | Fish | 30 mg/l |
| | OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test | Acute NOEC | 48 hours | <i>Daphnia</i> | 5 mg/l |
| | Unknown guidelines Not known | Acute LC0 | 96 hours | Fish | >1000 mg/l |
| PARAFFIN OILS | Unknown guidelines Not known | Acute LC100 | 96 hours | Fish | >1000 mg/l |
| | Unknown guidelines Not known | Acute LC50 | 96 hours | Fish | >1000 mg/l |
| | Unknown guidelines Not known | Acute LC50 | 96 hours | Fish | >1000 mg/l |
| DHARMASET YELLOW 4GN | OECD 209 Activated Sludge, Respiration Inhibition Test | Acute IC50 | 3 hours | Bacteria | >400 mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute LC50 | 48 hours | Fish | 45 mg/l |

Conclusion/Summary : Harmful to aquatic organisms if run directly to surface waters.

Persistence and degradability

Section 12. Ecological information

| Product/ingredient name | Test | Period | Result |
|--|---|---------|------------|
| Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulfophenyl)azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 0 % |
| Sodium 4-chloro-3-[4-[5-chloro-2-(2-chlorophenoxy)phenyl]azo]-4,5-dihydro-3-methyl-5-oxo-1H-pyrazol-1-yl]benzenesulphonate | OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test | 28 days | 92.3 % |
| DHARMASET YELLOW 4GN | OECD 303B Simulation Test - Aerobic Sewage Treatment – Biofilms | 28 days | 50 to 60 % |

Conclusion/Summary : Partially eliminated by adsorption onto effluent treatment sludge.
 Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulfophenyl)azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate Poorly eliminated by adsorption on effluent treatment sludge.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--|-------------------|------------|------------------|
| DHARMASET YELLOW 4GN | - | - | Not readily |
| Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulfophenyl)azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate | - | - | Not readily |
| Sodium 4-chloro-3-[4-[5-chloro-2-(2-chlorophenoxy)phenyl]azo]-4,5-dihydro-3-methyl-5-oxo-1H-pyrazol-1-yl]benzenesulphonate | - | - | Not readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|-----|-----------|
| Disodium 1,1'-isopropylidenedi-p-phenylenebis[2-[5-amino-3-methyl-1-(3-sulphonatophenyl)-1H-pyrazol-5-yl]azo]benzenesulphonate] | 0.57 | - | low |
| Sodium 4-(4-((5-(2-Bromo-1-oxo-2-propenyl)amino)-2-sulfophenyl)azo)-3-methylpyrazolon-1-yl)-2,5-dichlorobenzenesulfonate | -3.3 | - | low |
| Sodium 4-chloro-3-[4-[5-chloro-2-(2-chlorophenoxy)phenyl]azo]-4, | <3 | - | low |

Section 12. Ecological information

| | | | |
|---|--|--|--|
| 5-dihydro-3-methyl-5-oxo-1H-pyrazol-1-yl] benzenesulphonate | | | |
|---|--|--|--|

Mobility in soil

Not available.

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

BOD5 : 70 mgO2/g
COD : 980 mgO2/g
TOC : 33 %
Organohalogen content : 1 % Calculated as chloro
Phosphorus Content : 0.27 % as phosphate
Nitrogen Content : 7.6 %
Metal Content : Metal content under the ETAD recommended limits.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport information

Proper shipping name

DOT : Not regulated.
TDG : Not regulated.
IMDG : Not regulated.
IATA : Not regulated.

Section 14. Transport information

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|------------------------|----------------|---------|-----|-------|------------------------|
| DOT Classification | Not regulated. | - | - | | - |
| TDG Classification | Not regulated. | - | - | | - |
| IMDG Classification | Not regulated. | - | - | | - |
| IATA Classification | Not regulated. | - | - | | - |

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product

United States Regulations

TSCA 8(b) inventory : All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

TSCA 5(e) substance consent order : No ingredients listed.

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Immediate (acute) health hazard

Clean Air Act - Ozone Depleting Substances (ODS) : This product does not contain nor is it manufactured with ozone depleting substances.

SARA 313 : No ingredients listed.

| | <u>Ingredient name</u> | <u>%</u> | <u>Section 304 CERCLA Hazardous Substance</u> | <u>CERCLA Reportable Quantity (Lbs)</u> | <u>Product Reportable Quantity (Lbs)</u> |
|------------------------------------|--|----------|---|---|--|
| CERCLA Hazardous substances | Triphosphoric acid, pentasodium salt; Triphosphoric acid, sodium salt (1:5); Sodium phosphate; Pentasodium tripolyphosphate | 1.0964 | Listed | 5000 | 456038 |

Section 15. Regulatory information

State regulations

PENNSYLVANIA - RTK : Mixture of hydrocarbons ex petroleum, Triphosphoric acid, pentasodium salt; Triphosphoric acid, sodium salt (1:5); Sodium phosphate; Pentasodium tripolyphosphate, Sodium sulfate

California Prop 65 : **WARNING:** This product contains a chemical known to the State of California to cause cancer.

| <u>Ingredient name</u> | <u>Cancer</u> | <u>Reproductive</u> |
|------------------------|---------------|---------------------|
| PARAFFIN OILS | Yes. | No. |

Canadian regulations

CEPA DSL : At least one component is not listed.

WHMIS Classes : Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Brazil Regulations

Classification system used : Norma ABNT-NBR 14725-2:2012

International lists

Australia inventory (AICS): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

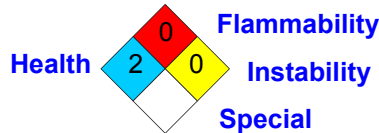
| | | |
|---------------------|---|---|
| Health | * | 2 |
| Flammability | | 0 |
| Physical hazards | | 0 |
| Personal protection | | X |

The customer is responsible for determining the PPE code for this material.

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

National Fire Protection Association (U.S.A.) :

Section 16. Other information



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