



SAFETY DATA SHEET DC2 GLADIATOR

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name DC2 GLADIATOR

Internal identification C218

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

Identified uses Cleaning agent.

1.3. Details of the supplier of the safety data sheet

Supplier ARROW SOLUTIONS
RAWDON ROAD
MOIRA
SWADLINCOTE
DERBYSHIRE
DE12 6DA
TEL: +44 (0)1283 221044
FAX: +44 (0)1283 225731
sales@arrowchem.com

1.4. Emergency telephone number

Emergency telephone +44 (0) 777 8505 330 (24 hrs). +44 (0) 1865 407333 (24 hrs). MEDICAL AND ENVIRONMENTAL EMERGENCIES ONLY.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Eye Dam. 1 - H318 Asp. Tox. 1 - H304

Environmental hazards Aquatic Chronic 3 - H412

Classification (67/548/EEC or 1999/45/EC) Xn;R65. Xi;R36. R52/53,R66.

2.2. Label elements

Pictogram



Signal word Danger

Hazard statements
H304 May be fatal if swallowed and enters airways.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

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Precautionary statements	P273 Avoid release to the environment. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 Dispose of contents/ container in accordance with national regulations. P280 Wear protective gloves, eye and face protection. P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P310 Immediately call a POISON CENTER/ doctor.
Supplemental label information	EUH066 Repeated exposure may cause skin dryness or cracking.
Contains	HYDROCARBONS, C11-14, n-ALKANES, ISOALKANES, CYCLICS <2% AROMATICS, Amides, C8-18 (even numbers) and C18-unsatd, N,N-bis(hydroxyethyl)
Detergent labelling	≥ 30% aliphatic hydrocarbons, 5 - < 15% non-ionic surfactants, < 5% perfumes, Contains LINALOOL, BENZYL SALICYLATE

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

HYDROCARBONS, C11-14, n-ALKANES, ISOALKANES, CYCLICS <2% AROMATICS			30-60%
CAS number: —	EC number: 926-141-6	REACH registration number: 01-2119456620-43-xxxx	
Classification Asp. Tox. 1 - H304			
Amides, C8-18 (even numbers) and C18-unsatd, N,N-bis(hydroxyethyl)			5-10%
CAS number: 68155-07-7	EC number: 931-329-6	REACH registration number: 01-2119490100-53-xxxx	
Classification Acute Tox. 4 - H312 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 2 - H411		Classification (67/548/EEC or 1999/45/EC) Xi;R38,R41.	
METHYL UNDECYLENATE			1-5%
CAS number: 111-81-09	EC number: 203-910-8	REACH registration number: 01-2119516445-42-XXXX	
M factor (Acute) = 1			
Classification Acute Tox. 4 - H302 Acute Tox. 4 - H332 Aquatic Acute 1 - H400 Aquatic Chronic 3 - H412		Classification (67/548/EEC or 1999/45/EC) Xn;R20/22. N;R50/53.	

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2,2'-IMINODIETHANOL			<1%
CAS number: 111-42-2	EC number: 203-868-0	REACH registration number: 01-2119488930-28-xxxx	
Classification Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT RE 2 - H373		Classification (67/548/EEC or 1999/45/EC) Xn;R22,R48/22 Xi;R38,R41	

GLYCERINE			<1%
CAS number: 56-81-5	EC number: 200-289-5	REACH registration number: 01-2119471987-18-XXXX	
Classification Not Classified		Classification (67/548/EEC or 1999/45/EC) -	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. Get medical attention immediately.
Skin contact	Rinse with water.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	Coughing, chest tightness, feeling of chest pressure.
Ingestion	Aspiration hazard if swallowed. May be fatal if swallowed and enters airways.
Skin contact	Repeated exposure may cause skin dryness or cracking.
Eye contact	Causes serious eye damage.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with the following media: Foam, carbon dioxide or dry powder.
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5.2. Special hazards arising from the substance or mixture

Hazardous combustion products	Thermal decomposition or combustion products may include the following substances: Ammonia or amines. Carbon monoxide (CO). Carbon dioxide (CO ₂). Nitrous gases (NO _x).
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5.3. Advice for firefighters

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Protective actions during firefighting No specific firefighting precautions known.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Avoid contact with skin, eyes and clothing. Do not touch or walk into spilled material. Provide adequate ventilation. Take care as floors and other surfaces may become slippery. Wash thoroughly after dealing with a spillage.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Provide adequate ventilation. Take care as floors and other surfaces may become slippery. Do not touch or walk into spilled material. Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear protective clothing, gloves, eye and face protection. Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapour/spray. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store at temperatures between 4°C and 40°C.

Storage class Chemical storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

HYDROCARBONS, C11-14, n-ALKANES, ISOALKANES, CYCLICS <2% AROMATICS

Long-term exposure limit (8-hour TWA): WEL 1000 mg/m³

2,2'-IMINODIETHANOL

Long-term exposure limit (8-hour TWA): WEL 3 ppm 13 mg/m³

GLYCERINE

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³

WEL = Workplace Exposure Limit

Fatty acids, C16-C18 and C18-unsatd., Me esters (CAS: 67762-38-3)

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DNEL	Professional - Inhalation; Long term systemic effects: 6.93 mg/m ³ Professional - Dermal; Long term systemic effects: 10 mg/kg/day Consumer - Inhalation; Long term systemic effects: 23 mg/m ³ Consumer - Oral; Long term systemic effects: 5 mg/kg/day Consumer - Dermal; Long term systemic effects: 5 mg/kg/day
PNEC	- Fresh water; 2.504 mg/l - water; Intermittent release 25.04 mg/l - Marine water; 0.2504 mg/l - STP; 520 mg/l

Amides, C8-18 (even numbers) and C18-unsatd, N,N-bis(hydroxyethyl) (CAS: 68155-07-7)

DNEL	Industry - Dermal; Long term systemic effects: 4.16 mg/kg/day Industry - Inhalation; Long term systemic effects: 73.4 mg/m ³ Consumer - Dermal; Long term systemic effects: 2.5 mg/kg/day Consumer - Inhalation; Long term systemic effects: 21.73 mg/m ³ Consumer - Oral; Long term systemic effects: 6.25 mg/kg/day
PNEC	- Fresh water; 0.007 mg/l - Marine water; 0.0007 mg/l - Intermittent release; 0.0024 mg/l - STP; 830 mg/l - Soil; 0.0348 mg/l - Sediment (Freshwater); 0.195 mg/kg - Sediment (Marinewater); 0.0195 mg/kg

METHYL UNDECYLENATE (CAS: 111-81-09)

DNEL	Workers - Inhalation; Short term local effects: 179.4 mg/m ³ Workers - Inhalation; Long term systemic effects: 4.23 mg/m ³ Workers - Dermal; Long term systemic effects: 0.6 mg/kg Consumer - Inhalation; Long term systemic effects: 1.04 mg/m ³ Consumer - Inhalation; Short term local effects: 89.7 mg/m ³ Consumer - Oral; Long term systemic effects: mg/kg Consumer - Dermal; Long term systemic effects: mg/kg/day
PNEC	- Intermittent release; mg/l

2,2'-IMINODIETHANOL (CAS: 111-42-2)

DNEL	Workers - Inhalation; Long term local effects: 1.0 mg/m ³ Workers - Dermal; Long term systemic effects: 0.13 mg/kg/day General population - Inhalation; Long term local effects: 0.25 mg/m ³ General population - Dermal; Long term systemic effects: 0.07 mg/kg/day General population - Oral; Long term systemic effects: 0.06 mg/kg/day
PNEC	- Fresh water; 0.0022 mg/l - Marine water; 0.00022 mg/l - Intermittent release; 0.022 mg/l - STP; 100 mg/l - Sediment (Freshwater); 0.012 mg/kg - Sediment (Marinewater); 0.0012 mg/kg - Soil; 0.0011 mg/kg

GLYCERINE (CAS: 56-81-5)

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DNEL

Workers - Inhalation; Long term local effects: 56 mg/m³
 General population - Inhalation; Long term local effects: 33 mg/m³
 General population - Oral; Long term systemic effects: 229 mg/kg/day

PNEC

- Fresh water; 0.885 mg/l
- Marine water; 0.0885 mg/l
- Intermittent release; 8.85 mg/l
- STP; 1000 mg/l
- Sediment (Freshwater); 3.3 mg/kg
- Sediment (Marinewater); 0.33 mg/kg
- Soil; 0.141 mg/kg

8.2. Exposure controls

Protective equipment



Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacture, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. The selected gloves should have a breakthrough time of at least 4 hours. The breakthrough time for any glove material may be different for different glove manufacturers. When used with mixtures, the protection time of gloves cannot be accurately estimated. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Protective gloves should have a minimum thickness of 0.12 mm. Glove thickness is not necessarily a good measure of glove resistance as the permeation rate will depend on the exact glove composition. For work of short duration or where a high degree of manual dexterity is needed, use protective gloves made of: Nitrile rubber. Neoprene. Rubber (natural, latex). Specific work environments and material handling practices may vary, therefore safety procedures should be developed for each intended application. Repeated exposure to chemicals will degrade the ability of the glove to provide resistance to chemicals. The choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use.

Hygiene measures

Wash hands after handling.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Amber.
Odour	Characteristic.
pH	Not applicable.
Flash point	65°C Closed cup.
Relative density	0.85 @ 20°C
Solubility(ies)	Forms an emulsion with water.

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Viscosity Kinematic viscosity $\leq 20.5 \text{ mm}^2/\text{s}$.

9.2. Other information

Other information Not determined.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Not determined.

10.4. Conditions to avoid

Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.

10.5. Incompatible materials

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion products may include the following substances: Ammonia or amines. Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrous gases (NO_x).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg) 27,777.78

Acute toxicity - dermal

ATE dermal (mg/kg) 27,434.84

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 611.11

Aspiration hazard

Aspiration hazard May be fatal if swallowed and enters airways. Kinematic viscosity $\leq 20.5 \text{ mm}^2/\text{s}$. Aspiration hazard if swallowed.

Inhalation

Coughing, chest tightness, feeling of chest pressure.

Ingestion

Aspiration hazard if swallowed. May be fatal if swallowed and enters airways.

Skin contact

Repeated exposure may cause skin dryness or cracking.

Eye contact

Causes serious eye damage.

Toxicological information on ingredients.

HYDROCARBONS, C11-14, n-ALKANES, ISOALKANES, CYCLICS <2% AROMATICS

Acute toxicity - oral

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Acute toxicity oral (LD₅₀ 5,000.0
mg/kg)

Species Rat

ATE oral (mg/kg) 5,000.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 5,000.0
mg/kg)

Species Rabbit

ATE dermal (mg/kg) 5,000.0

Acute toxicity - inhalation

Acute toxicity inhalation 5,001.0
(LC₅₀ vapours mg/l)

Species Rat

ATE inhalation (vapours 5,001.0
mg/l)

Fatty acids, C16-C18 and C18-unsatd., Me esters

Acute toxicity - oral

Acute toxicity oral (LD₅₀ 2,001.0
mg/kg)

Species Rat

ATE oral (mg/kg) 2,001.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 2,001.0
mg/kg)

Species Rat

ATE dermal (mg/kg) 2,001.0

Reproductive toxicity

Reproductive toxicity - Fertility: - NOAEL 1000 mg/kg, Oral, Rat
fertility

Amides, C8-18 (even numbers) and C18-unsatd, N,N-bis(hydroxyethyl)

Acute toxicity - oral

Acute toxicity oral (LD₅₀ 5,000.0
mg/kg)

Species Rat

ATE oral (mg/kg) 5,000.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ 2,000.0
mg/kg)

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Species	Rat
ATE dermal (mg/kg)	2,000.0

METHYL UNDECYLENATE

<u>Acute toxicity - oral</u>	
ATE oral (mg/kg)	500.0
<u>Acute toxicity - inhalation</u>	
ATE inhalation (vapours mg/l)	11.0

2,2'-IMINODIETHANOL

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	1,600.0
Species	Rat
ATE oral (mg/kg)	500.0
<u>Carcinogenicity</u>	
IARC carcinogenicity	IARC Group 2B Possibly carcinogenic to humans.

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<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	2,001.0
Species	Rat
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	1,000.0
Species	Rabbit

SECTION 12: Ecological Information

Ecotoxicity Harmful to aquatic life with long lasting effects.

12.1. Toxicity**Acute aquatic toxicity**

Acute toxicity - fish Not determined.

Ecological information on ingredients.**HYDROCARBONS, C11-14, n-ALKANES, ISOALKANES, CYCLICS <2% AROMATICS**

<u>Acute aquatic toxicity</u>	
Acute toxicity - fish	LC50, 96 hours: > 1000 mg/l, Oncorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: > 1000 mg/l, Daphnia magna EC ₅₀ , 48 hours: >250ppm mg/l, Daphnia magna

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Acute toxicity - aquatic plants IC₅₀, 72 hours: 20ppm mg/l, Algae

Amides, C8-18 (even numbers) and C18-unsatd, N,N-bis(hydroxyethyl)

Acute aquatic toxicity

Acute toxicity - aquatic invertebrates EC₅₀, : 3.2 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC₅₀, : 3.9 mg/l,

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 0.07 mg/l, Daphnia magna

METHYL UNDECYLENATE

Acute aquatic toxicity

LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

2,2'-IMINODIETHANOL

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: > 100 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: > 10 - 100 mg/l, Daphnia magna

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 0.78 mg/l, Daphnia magna

GLYCERINE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 54000 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, >: > 10000 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: > 2900 mg/l, Freshwater algae

Acute toxicity - microorganisms EC₅₀, >: > 1000 mg/l, Activated sludge

12.2. Persistence and degradability

Persistence and degradability The product is expected to be biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product is not bioaccumulating.

12.4. Mobility in soil

Mobility The product is partly miscible with water and may spread in the aquatic environment.

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12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

Special Provisions note

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Transport labels

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations Control of Substances Hazardous to Health Regulations 2002 (as amended).

EU legislation Commission Regulation (EU) No 453/2010 of 20 May 2010.
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Guidance Workplace Exposure Limits EH40.

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15.2. Chemical safety assessment

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 EC₅₀: 50% of maximal Effective Concentration.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 IBC: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code).
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 NOEC: No Observed Effect Concentration.
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 vPvB: Very Persistent and Very Bioaccumulative.
 UN: United Nations.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

16/11/2017

Revision

3.1

Supersedes date

11/06/2015

Risk phrases in full

Not classified.
 R20/22 Harmful by inhalation and if swallowed.
 R36 Irritating to eyes.
 R38 Irritating to skin.
 R41 Risk of serious damage to eyes.
 R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R65 Harmful: may cause lung damage if swallowed.
 R66 Repeated exposure may cause skin dryness or cracking.

Hazard statements in full

H302 Harmful if swallowed.
 H304 May be fatal if swallowed and enters airways.
 H312 Harmful in contact with skin.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H332 Harmful if inhaled.
 H373 May cause damage to organs (Blood, Kidneys, Liver) through prolonged or repeated exposure.
 H400 Very toxic to aquatic life.
 H411 Toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.

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This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.