

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

Hydrochloric Acid with Inhibitor and MUSOL

Revision Date: 13-Feb-2015

Revision Number: 2

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

1.1. Product Identifier

Product Name Hydrochloric Acid with Inhibitor and MUSOL

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

Recommended Use Solvent

1.3. Details of the supplier of the safety data sheet

Halliburton Energy Services
Halliburton House, Howemoss Place
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 1224 795277 or +1 281 575 5000

Emergency telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	+210 7793777
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): +47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Romania	+40 21 318 36 06
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Skin Corrosion / irritation	Category 1 - H314
Serious Eye Damage / Eye Irritation	Category 1 - H318

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R/H-phrases mentioned in this Section, see Section 16

Classification C - Corrosive.

Risk Phrases R34 Causes burns.

2.2. Label Elements

Hazard Pictograms



Signal Word Danger

Hazard Statements

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/eye protection/face protection

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor/physician

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Contains

Substances

Hydrochloric acid

Ethylene glycol monobutyl ether

CAS Number

7647-01-0

111-76-2

2.3. Other Hazards

None known

SECTION 3: Composition/information on Ingredients

Substances	EINECS	CAS Number	PERCENT (w/w)	EEC Classification	EU - CLP Substance Classification	REACH No.
Hydrochloric acid	231-595-7	7647-01-0	10 - 30%	C; R34 Xi; R37	Skin Corr. 1B (H314) Eye Dam. 1 (H318) STOT SE 3 (H335) Met. Corr. 1 (H290)	01-2119484862-27
Ethylene glycol monobutyl ether	203-905-0	111-76-2	10 - 30%	Xn; R20/21/22 Xi; R36/38	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	01-2119475108-36

For the full text of the R/H-phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.
Eyes	In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.
Skin	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.
Ingestion	Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

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

May cause eye and respiratory burns.

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

Notes to Physician Treat symptomatically

SECTION 5: Firefighting Measures**5.1. Extinguishing media****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture**Special Exposure Hazards**

Decomposition in fire may produce toxic gases. Reaction with steel and certain other metals generates flammable hydrogen gas. Do not allow runoff to enter waterways.

5.3. Advice for firefighters**Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Wear full protective gear.

See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Neutralize to pH of 6-8. Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and Storage**7.1. Precautions for Safe Handling**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Store away from alkalis. Store in a cool well ventilated area. Keep container closed when not in use.

7.3. Specific End Use(s)**Exposure Scenario**

No information available

Other Guidelines

No information available

SECTION 8: Exposure Controls/Personal Protection**8.1. Control parameters****Exposure Limits**

Substances	CAS Number	EU	UK	Netherlands	France
Hydrochloric acid	7647-01-0	Not applicable	TWA: 1 ppm TWA: 2 mg/m ³ STEL: 5 ppm STEL: 8 mg/m ³	TWA: 8 mg/m ³ STEL: 15 mg/m ³	STEL: 5 ppm STEL: 7.6 mg/m ³
Ethylene glycol monobutyl ether	111-76-2	Not applicable	TWA: 25 ppm TWA: 123 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 100 mg/m ³ STEL: 246 mg/m ³	2 ppm

Substances	CAS Number	Germany	Spain	Portugal	Finland
Hydrochloric acid	7647-01-0	TWA: 2 ppm TWA: 3 mg/m ³ TWA: 3.0 mg/m ³	TWA: 5 ppm TWA: 7.6 mg/m ³ 10 ppm STEL [VLA-EC]; 15 mg/m ³ STEL [VLA-EC]	TWA: 5 ppm TWA: 8 mg/m ³ STEL: 10 ppm STEL: 15 mg/m ³	STEL: 5 ppm STEL: 7.6 mg/m ³
Ethylene glycol monobutyl ether	111-76-2	TWA: 10 ppm TWA: 49 mg/m ³	TWA: 20 ppm TWA: 98 mg/m ³ 50 ppm STEL [VLA-EC]; 245 mg/m ³ STEL [VLA-EC]	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 20 ppm STEL: 246 mg/m ³	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 50 ppm STEL: 250 mg/m ³

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Hydrochloric acid	7647-01-0	TWA: 5 ppm TWA: 8 mg/m ³ STEL" 10 ppm STEL" 15 mg/m ³	5 ppm TWA; 8 mg/m ³ TWA 10 ppm STEL (as F); 15 mg/m ³ STEL	TWA: 2 ppm TWA: 3.0 mg/m ³ STEL: 4 ppm STEL: 6 mg/m ³	Not applicable
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m ³ STEL" 40 ppm STEL" 200 mg/m ³	20 ppm TWA; 98 mg/m ³ TWA 50 ppm STEL; 246 mg/m ³ STEL	TWA: 10 ppm TWA: 49 mg/m ³ STEL: 20 ppm STEL: 98 mg/m ³	TWA: 10 ppm TWA: 50 mg/m ³ STEL: 20 ppm STEL: 75 mg/m ³

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Hydrochloric acid	7647-01-0	TWA: 5 ppm TWA: 8 mg/m ³ STEL: 10 ppm STEL: 15 mg/m ³	TWA: 5 mg/m ³ STEL: 10 mg/m ³	TWA: 8 mg/m ³ STEL: 16 mg/m ³	TWA: 8 mg/m ³
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 98 mg/m ³ STEL: 200 mg/m ³	TWA: 98 mg/m ³ STEL: 246 mg/m ³	TWA: 100 mg/m ³

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Hydrochloric acid	7647-01-0	Not applicable	TWA: 5 ppm TWA: 8 mg/m ³ STEL: 10 ppm STEL: 15 mg/m ³	TWA: 5 ppm TWA: 8 mg/m ³ STEL: 10 ppm STEL: 15 mg/m ³	TWA: 5 ppm TWA: 8 mg/m ³ STEL: 10 ppm STEL: 15 mg/m ³
Ethylene glycol monobutyl ether	111-76-2	TWA: 20 ppm TWA: 98 mg/m ³	TWA: 30 ppm TWA: 150 mg/m ³ STEL: 50 ppm STEL: 250 mg/m ³ STEL: 246 mg/m ³	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³	TWA: 20 ppm TWA: 98 mg/m ³ STEL: 50 ppm STEL: 246 mg/m ³

Derived No Effect Level (DNEL)**Worker**

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Hazards for the eyes - local effects

Hydrochloric acid	Not available	Not available	8 mg/m ³	15 mg/m ³	Not available	Not available	Not available	Not available	Not available
Ethylene glycol monobutyl ether	98 mg/m ³	663 mg/m ³	Not available	246 mg/m ³	75 mg/kg bw/day	89 mg/kg bw/day	Not available	Not available	Not available

General Population

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Long-term exposure - systemic effects, Oral	Acute / short term exposure - local effects, Oral	Hazards for the eyes - local effects
Ethylene glycol monobutyl ether	49 mg/m ³	426 mg/m ³	Not available	123 mg/m ³	38 mg/kg bw/day	44.5 mg/kg bw/day	Not available	Not available	3.2 mg/kg bw/day	13.4 mg/kg bw/day	Not available

Predicted No Effect Concentration (PNEC)

Substances	Freshwater	Marine water	Intermittent release	Sewage treatment plant	Sediment (freshwater)	Sediment (marine water)	Air	Soil	Secondary poisoning
Hydrochloric acid	36 ug/L	36 ug/L	45 ug/L	36 ug/L	Not available	Not available	Not available	Not available	Not available
Ethylene glycol monobutyl ether	8.8 mg/L	0.88 kg/L	9.1 mg/L	463 mg/L	34.6 mg/kg	3.46 mg/kg	Not available	3.13 mg/kg soil dw	0.02 g/kg food

8.2. Exposure controls

Engineering Controls

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal protective equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Acid gas respirator.

Hand Protection

In high concentrations, supplied air respirator or a self-contained breathing apparatus. Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Nitrile gloves. (>= 0.8 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.

Skin Protection

Full protective chemical resistant clothing. Rubber boots.

Eye Protection

Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions

Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls No information available

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid **Color:** Clear colorless
Odor: Pungent acrid **Odor Threshold:** No information available

Property	Values
Remarks/ - Method	
pH:	1
Freezing Point/Range	No data available
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	No data available

Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	No data available
Water Solubility	Miscible with water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

VOC Content (%)	No data available
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SECTION 10: Stability and Reactivity**10.1. Reactivity**

Not applicable

10.2. Chemical Stability

Stable

10.3. Possibility of Hazardous Reactions

Will Not Occur

10.4. Conditions to Avoid

None anticipated

10.5. Incompatible Materials

Contact with metals. Strong alkalis. Silicone bearing materials.

10.6. Hazardous Decomposition Products

Flammable hydrogen gas. Chlorine. Hydrogen fluoride. Hydrogen sulfide.

SECTION 11: Toxicological Information**11.1. Information on Toxicological Effects****Acute Toxicity**

Inhalation	Causes severe respiratory burns. May cause lungs to fill with fluids.
Eye Contact	May cause eye burns.
Skin Contact	May cause skin burns.
Ingestion	Causes burns of the mouth, throat and stomach.

Chronic Effects/Carcinogenicity Prolonged, excessive exposure may cause erosion of the teeth.**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrochloric acid	7647-01-0	No data available	5010 mg/kg (Rabbit) >5010 mg/kg (Rabbit) 1449 mg/kg (Mouse)	3124 ppm (Rat) 1 h 3.2 mg/L (Mouse) 8.3 mg/L (aerosol, Rat) 1405 ppm (Rat) 554 ppm (Mouse)
Ethylene glycol monobutyl ether	111-76-2	470 mg/kg (Rat) 1414 mg/kg (Guinea pig) 1746 mg/kg (Rat) 320 mg/kg (Rabbit) 530 mg/kg (Rat) 560 mg/kg (Rat) 3000 mg/kg (Rat) 2400 mg/kg (Rat)	220 mg/kg (Rabbit) 2270 mg/kg (Rat) 200 mg/kg (Guinea pig) >2000 mg/kg (Rabbit) 841 mg/kg (Rabbit) 435 mg/kg (Rabbit) >2000 mg/kg (Guinea pig) >2000 mg/kg (Rat) 100 mg/kg (Rabbit) 207 mg/kg (Guinea pig) 400-500 mg/kg (Rabbit)	450 ppm (Rat) 4h 2.174 mg/L (Rat) 4h 2.21 mg/L (Rat) 4h 450-486 ppm (Rat) 4h 925 ppm (Rat) 4h >633 ppm (Guinea pig) 1h

Substances	CAS Number	Skin corrosion/irritation
Hydrochloric acid	7647-01-0	Causes severe burns

Ethylene glycol monobutyl ether	111-76-2	Causes moderate skin irritation. (rabbit)
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Substances	CAS Number	Eye damage/irritation
Hydrochloric acid	7647-01-0	Causes severe burns
Ethylene glycol monobutyl ether	111-76-2	Causes moderate eye irritation. (rabbit)

Substances	CAS Number	Skin Sensitization
Hydrochloric acid	7647-01-0	Did not cause sensitization on laboratory animals (guinea pig)
Ethylene glycol monobutyl ether	111-76-2	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Hydrochloric acid	7647-01-0	No information available
Ethylene glycol monobutyl ether	111-76-2	No information available

Substances	CAS Number	Mutagenic Effects
Hydrochloric acid	7647-01-0	Not regarded as mutagenic.
Ethylene glycol monobutyl ether	111-76-2	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects

Substances	CAS Number	Carcinogenic Effects
Hydrochloric acid	7647-01-0	Did not show carcinogenic effects in animal experiments
Ethylene glycol monobutyl ether	111-76-2	Not regarded as carcinogenic.

Substances	CAS Number	Reproductive toxicity
Hydrochloric acid	7647-01-0	Embryo and fetotoxicity has been observed in female rats exposed to maternally toxic levels of hydrogen chloride (450 mg/m ³ , 1hr.).
Ethylene glycol monobutyl ether	111-76-2	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Hydrochloric acid	7647-01-0	Causes severe respiratory irritation.
Ethylene glycol monobutyl ether	111-76-2	No data of sufficient quality are available.

Substances	CAS Number	STOT - repeated exposure
Hydrochloric acid	7647-01-0	No significant toxicity observed in animal studies at concentration requiring classification.
Ethylene glycol monobutyl ether	111-76-2	None under normal use conditions

Substances	CAS Number	Aspiration hazard
Hydrochloric acid	7647-01-0	Not applicable
Ethylene glycol monobutyl ether	111-76-2	No adverse health effects are expected from swallowing.

SECTION 12: Ecological Information

12.1. Toxicity Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates

Hydrochloric acid	7647-01-0	EC50 (72h): 4.7 (pH) (Chlorella vulgaris)	LC50: 282 mg/L (Gambusia affinis) LC50: 20.5 mg/L (Lepomis macrochirus) LC50 (96h): 3.25 – 3.5 (pH) (Lepomis macrochirus)	EC50(3h): >= 5 and <= 5.5 (pH) (Activated sludge, domestic)	EC50(48h): 4.9 (pH) (Daphnia magna)
Ethylene glycol monobutyl ether	111-76-2	EC50: 839.56 mg/l (Skeletonema costatum) EC50(72h): 911 mg/L (biomass) EC50: > 500 mg/l (Scenedesmus subspicatus) NOEC(72h): 88 mg/L (biomass)(Pseudokirchnerella subcapitata)	LC50: > 1000 mg/l (Scophthalmus maximus juvenile) LC50(96h): 1474 mg/L (Oncorhynchus mykiss) NOEC(21d): > 100mg/L (Danio rerio)	TT/EC3(48h): 463 mg/L (Uronema parduzci) TT/EC3(72h): 73 mg/L (Entosiphon sulcatum) TT/EC3(16h): 700 mg/L (Pseudomonas putida)	EC50: >1000 mg/L (Daphnia magna) EC50 (48h): 1800 mg/L (Daphnia magna) EC50: 1875 mg/l (Daphnia magna) NOEC(21d)(reproduction): 100 mg/L (Daphnia magna)

12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Hydrochloric acid	7647-01-0	The methods for determining biodegradability are not applicable to inorganic substances.
Ethylene glycol monobutyl ether	111-76-2	Readily biodegradable (75-88% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Hydrochloric acid	7647-01-0	0.25
Ethylene glycol monobutyl ether	111-76-2	0.81

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Disposal Method Contaminated Packaging

Disposal should be made in accordance with federal, state, and local regulations.
Follow all applicable national or local regulations.

SECTION 14: Transport Information

IMDG/IMO

UN Number:	UN1789
UN Proper Shipping Name:	Hydrochloric Acid Solution (Contains Hydrochloric Acid, Acetic Acid)
Transport Hazard Class(es):	8
Packing Group:	II
Environmental Hazards:	Not applicable
EMS:	EmS F-A, S-B

RID

UN Number:	UN1789
UN Proper Shipping Name:	Hydrochloric Acid Solution (Contains Hydrochloric Acid, Acetic Acid)
Transport Hazard Class(es):	8
Packing Group:	II
Environmental hazard:	Not applicable

ADR

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution (Contains Hydrochloric Acid, Acetic Acid)
Transport Hazard Class(es): 8
Packing Group: II
Environmental hazard: Not applicable

IATA/ICAO

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution (Contains Hydrochloric Acid, Acetic Acid)
Transport Hazard Class(es): 8
Packing Group: II
Environmental hazard: Not applicable

- 14.1. UN Number:** UN1789
- 14.2. UN Proper Shipping Name:** Hydrochloric Acid Solution (Contains Hydrochloric Acid, Acetic Acid)
- 14.3. Transport Hazard Class(es):** 8
- 14.4. Packing Group:** II
- 14.5. Environmental Hazards:** Not applicable
- 14.6. Special Precautions for User:** None
- 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable

SECTION 15: Regulatory Information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

EINECS Inventory This product, and all its components, complies with EINECS
US TSCA Inventory All components listed on inventory or are exempt.
Canadian DSL Inventory All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering Classes (WGK) WGK 1: Low hazard to waters.

15.2. Chemical Safety Assessment

No information available

SECTION 16: Other Information**Full text of R-phrases referred to under Sections 2 and 3**

R20/21/22 Harmful by inhalation, by contact with skin and if swallowed.
R34 Causes burns.
R36/38 Irritating to eyes and skin.
R37 Irritating to respiratory system.

Full text of H-Statements referred to under sections 2 and 3

H290 - May be corrosive to metals
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H315 - Causes skin irritation
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation

Key or legend to abbreviations and acronyms

bw – body weight
CAS – Chemical Abstracts Service
CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures
EC – European Commission
EC10 – Effective Concentration 10%
EC50 – Effective Concentration 50%
EEC – European Economic Community
ErC50 – Effective Concentration growth rate 50%
IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL0 – Lethal Loading 0%
LL50 – Lethal Loading 50%
MARPOL – International Convention for the Prevention of Pollution from Ships
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NOEC – No Observed Effect Concentration
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PBT – Persistent Bioaccumulative and Toxic
PC – Chemical Product category
PEL – Permissible Exposure Limit
ppm – parts per million
PROC – Process category
REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL – Short Term Exposure Limit
SU – Sector of Use category

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date: 13-Feb-2015

Revision Note

Update to Format SECTION: 8

This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010

Disclaimer Statement

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End of Safety Data Sheet