

SAFETY DATA SHEET

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP), 2015/830, 2020/878 and THE REACH etc. (AMENDMENT etc)(EU EXIT) REGULATIONS 2020

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name Hydrocid 306
CAS No. Mixture
EC No. Mixture
REACH Registration No Not applicable
Unique Formulation Identifier

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

Identified Use(s) Biocides for water treatment
Uses Advised Against No specific uses advised against are identified

1.3 Details of the supplier of the safety data sheet

Supplier
Company Identification Hydro-X Group Ltd
Address of Supplier Unit 1, Manor Drive
Dinnington
South Yorkshire
Postal code S25 3QU
Telephone: +44 (0) 1909 565133
Fax +44 (0) 1909 564301
E-mail technical@hydro-x.co.uk

1.4 Emergency telephone number

Emergency Phone No. +44 (0) 1909 565133 (09:00-17:00 UK time)
National response centre
Address National Poisons Information Service
Emergency Phone No. +44 (0) 344 892 0111 (Healthcare Professionals only)
NHS Direct +44 111 (Members of the public)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008 (CLP)	Acute Toxicity (Ingestion)	Category 3
	Acute Toxicity (Inhalation)	Category 2
	Skin Corrosion	Category 1B
	Eye Damage	Category 1
	Respiratory Sensitising	Category 1
	Skin Sensitising	Category 1
	STOT Single Exposure (Respiration)	Category 3
	Aquatic Toxicity (Acute)	Category 1
	Aquatic Toxicity (Chronic)	Category 1

2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)

Product Name Hydrocid 306

Hazard Pictogram(s)



GHS05



GHS06



GHS08



GHS09

Signal Word(s)

Danger

Hazard Statement(s)

H302: Harmful if swallowed
H331: Toxic if inhaled
H314: Causes severe skin burns and eye damage
H317: May cause an allergic skin reaction
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335: May cause respiratory irritation
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statement(s) P261: Avoid breathing vapour/spray
P280: Wear protective gloves/protective clothing/eye protection/face protection
P284: (in case of inadequate ventilation) wear respiratory 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
P305+P351+P338+P310: IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
Immediately call a POISON CENTRE or doctor/physician
P310: Immediately call a POISON/CENTER/doctor
P501: Dispose of contents in accordance with local, state or national legislation.

Contains : Glutaral, Bronopol (INN), Reaction mass of: 5-Chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-Methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)

Supplementary precautionary statements P264: Wash contaminated skin thoroughly after handling
P271: Use only outdoors or in a well-ventilated area
P272: Contaminated work clothing should not be allowed out of the workplace
P273: Avoid release to the environment
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
P333+P313: If skin irritation or rash occurs: Get medical advice/attention
P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER/doctor
P362+P364: Take off contaminated clothing and wash it before reuse
P391: Collect spillage
P403+P233: Store in a well-ventilated place. Keep container tightly closed
P405: Store locked up

2.3 Other hazards

2.4 Additional Information

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not applicable

3.2 Mixtures

HAZARDOUS INGREDIENT(S)	CAS No.	EC No. / REACH Registration No.	%W/W	Hazard Statement(s)	Hazard Pictogram(s)
Glutaral	111-30-8	203-856-5 / 01-2119455549-26-xxxx	2.5 – 4.9	Acute Tox. 3 H301 Acute Tox. 2 H330 Skin Corr. 1B H314 Eye Dam. 1 H318 Resp. Sens. 1 H334 Skin Sens. 1 H317 STOT SE3 H335 Aquatic Acute 1 H400 (M factor (Acute) =1) Aquatic Chron. 2 H411 EUH071	GHS05 GHS06 GHS08 GHS09
Bronopol (INN)	52-51-7	200-143-0 / 01-2119980938-15-xxxx	1-2.5	Acute Tox. 4 H302 Acute Tox. 4 H312 Skin Irrit. 2 H315 Eye Dam. 1 H318 STOT SE3 H335 Aquatic Acute 1 H400 (M factor (Acute) = 10) Aquatic Chron.1 H411	GHS05 GHS07 GHS09
Reaction mass of: 5-Chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-Methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)	55965-84-9	611-341-5 / 01-2120764691-48-xxxx	1-2.5	Acute Tox. 3 H301 Acute Tox. 3 H311 Acute Tox.3 H331 Skin Corr. 1B H314 Eye Dam. 1 H318 Skin Sens. 1 H317 Aquatic Acute 1 H400 (M factor (Acute) =100) Aquatic Chron. 1 H410 (M factor (Chron) =100) EUH071	GHS05 GHS06 GHS09

Copper(II) nitrate trihydrate	10031-43-3	221-838-5 01-2119969290-34-xxxx	0.025-0.25	Ox. Sol. 2 H272 Acute Tox. 4 H302 Skin Irrit. 2 H315 Eye Dam. 1 H318 Aquatic Acute 1 H400 (M factor (Acute) = 10)	GHS03 GHS05 GHS09
Methanol	67-56-1	200-659-6 01-2119433307-44-xxxx	< 0.025	Flam. Liq. 2 H225 Acute Tox. 3 H301 Acute Tox. 3 H311 Acute Tox. 3 H331 STOT SE1 H370	GHS02 GHS06 GHS08

See Section 16 for full text of abbreviations

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	OBTAIN MEDICAL ATTENTION IMMEDIATELY. Remove affected person from source of contamination if safe to do so. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie and belt Place unconscious person on their side in the recovery position and ensure breathing can take place. If breathing stops, provide artificial respiration. Administer oxygen if necessary. Obtain medical attention if breathing remains difficult.
Skin Contact	OBTAIN MEDICAL ATTENTION IMMEDIATELY. Remove contaminated clothing and footwear immediately unless stuck to skin. Drench affected skin with running water for fifteen minutes or longer. Chemical burns must be treated by a physician
Eye Contact	OBTAIN MEDICAL ATTENTION IMMEDIATELY Rinse immediately with plenty of water. Remove contact lenses if present and easy to do so. Continue to rinse for at least 15 minutes. Transfer to hospital for specialist examination.
Ingestion	OBTAIN MEDICAL ATTENTION IMMEDIATELY. If patient is conscious, wash out mouth with water and make patient drink small glasses of water or milk. Stop if affected person feels sick as vomiting may be dangerous. Do NOT induce vomiting unless instructed by medical personnel. If vomiting occurs, keep head low so that vomit does not enter the lungs. Show this Safety Data Sheet to the medical personnel. First aid personal must wear appropriate protective equipment during rescue including an appropriate respirator if volatile contaminants are still present around the affected person. Wash contaminated clothing thoroughly before removing it from the affected person, or wear gloves. Do NOT carry out mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Skin contact	May cause sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness
Ingestion	May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in the mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, Vomiting
Inhalation	May cause sensitisation or allergic reactions in sensitive individuals. Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.

See also Section 11

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Chemical burns must be treated by a physician

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media	Extinguish with alcohol resistant foam, carbon dioxide, dry powder or water fog as appropriate for surrounding fire.
Unsuitable extinguishing media	Do not use water jet

5.2 Special hazards arising from the substance or mixture

Containers can burst or explode under pressure when heated. Severe corrosive hazard. Water used for extinguishing that has been in contact with product may be corrosive. Combustion evolves toxic or corrosive gases

5.3 Advice for firefighters

Avoid breathing fire gases or vapours. Evacuate area. Keep upwind. Ventilate closed spaces before entering. Cool containers exposed to fire with water spray. Remove then from the fire area if it can be done without risk. Continue cooling containers until fire is extinguished. If a leak or spill has not ignited, use water spray to disperse vapours and protect personnel stopping leak. Avoid discharge to aquatic environment. Contain run-off water to prevent entering sewers and watercourses. If pollution has occurred, notify appropriate authorities.

Special protective equipment

Regular protection may not be adequate. Fire fighters should wear chemical protective clothing including self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Do not take action unless adequately trained. Keep unnecessary and unprotected personnel away from the spillage. Wear suitable protective clothing, gloves and eye/face protection. Do not touch or walk into spilled material. Avoid inhalation of vapours and spray/mists. Wear suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes. Avoid contact with contaminated tools and objects. Wash thoroughly after dealing with spillage.

6.2 Environmental precautions

Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. If necessary, dike the product with dry earth, sand or similar non-combustible materials.
Large spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air)

6.3 Methods and material for containment and cleaning up

Wear protective clothing as described in Section 8 of this Safety Data Sheet. Clear up spills immediately. This product is corrosive. Approach the spillage from upwind.
Small spillages: Dilute the spillage with water and mop up.
Large spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent tank or proceed as follows:
Contain and absorb spillage with sand, earth or other non-combustible material. Transfer waste to labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. Regard contaminated absorbent as hazardous. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage.
Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with local and national regulations.

6.4 Reference to other sections

See Also Sections 8,11 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Read and follow the manufacturer's instructions. Wear protective clothing as described in section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. This product is corrosive. Immediate First Aid is imperative. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Follow principles of good occupational hygiene. Wash hands thoroughly after handling. Change contaminated clothes at the end of working shift.

7.2 Conditions for safe storage, including any incompatibilities

Store in tightly-closed original container in a cool and well-ventilated place. Keep containers upright. Protect containers from damage.

Storage Class	Corrosive
Storage temperature	Ambient.
Storage life	Stable under normal conditions.
Incompatible materials	Strong alkalis. Strong oxidising agents. Strong reducing agents

7.3 Specific end use(s) Biocides for water treatment

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits UK (EH40/2005 Fourth Edition 2020)

Ingredient	LTEL (8 hours)	STEL (15 minutes)
Glutaral	0.2 mg/m ³	0.2 mg/m ³
Methanol	266 mg/m ³	333 mg/m ³

DNEL Not available
PNEC Not available

8.2 Exposure controls

8.2.1. Appropriate engineering controls Provide adequate ventilation and observe occupational exposure limits for the product or ingredients. Use process enclosures and other engineering controls including local exhaust ventilation to minimise worker exposure. Wear respiratory protection if exposure cannot be adequately controlled by engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

8.2.2. Personal protection equipment



Eye Protection

Wear tightly fitting safety goggles (EN166).



Skin protection

Wear protective clothing, footwear and gloves: Impervious gloves (EN 374). Breakthrough time: 480 minutes. Consult supplier regarding glove material and breakthrough times. Check during use that gloves are retaining their protective properties and change them as soon as any deterioration is detected



Respiratory protection

If ventilation is inadequate to control exposure, a suitable mask with organic vapour filter type A (EN136, EN140 EN405 or EN14387) may be appropriate. Ensure that equipment is 'CE' or 'UKCA' marked and respirator fits tightly. Change filters regularly. Self-contained breathing apparatus must be available in case of emergency

8.2.3. Environmental Exposure Controls Keep container tightly sealed when not in use. Check emissions from ventilation or process equipment to ensure that they comply with workplace and environmental legislation.

Additional comments Provide eyewash station. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid
Colour	Pale yellow
Odour	Mild odour. Threshold not determined
pH	2.5-3.0
Melting point/freezing point	~ 0 degC
Initial boiling point and boiling range	~ 100 degC @ 760 mm Hg.
Flash Point	Test not scientifically justifiable: solution in water
Evaporation rate (n-butyl acetate=1)	Not available
Flammability (solid, gas)	Test not scientifically justifiable: solution in water
Upper/lower flammability or explosive limits	Test not scientifically justifiable: solution in water
Vapour pressure at 20 degC	2 kPa (Estimated)
Vapour density	Not applicable : water
Density (g/ml)	Not available
Relative density	Not available
Solubility(ies)	Miscible with water

Partition coefficient: n-octanol/water	Test not scientifically justifiable for mixture. See Section 12.3
Auto-ignition temperature	Test not scientifically justifiable: solution in water
Decomposition Temperature (°C)	Test not scientifically justifiable: solution boils at 100 degC
Viscosity at 20 degC	1-5 mPa.s
Explosive properties	Test not scientifically justifiable: solution in water
Oxidising properties	Study does not need to be conducted. On basis of chemical structures of ingredients, product is incapable of reacting exothermally with combustible material.

9.2 Other information

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	No potentially hazardous reactions known
10.2 Chemical Stability	Stable at normal ambient temperatures and when used as recommended.
10.3 Possibility of hazardous reactions	No potentially hazardous reactions known
10.4 Conditions to avoid	Avoid excessive heat for prolonged periods of time
10.5 Incompatible materials	Strong alkalis. Strong oxidising agents. Strong reducing agents
10.6 Hazardous decomposition products	Does not decompose when used and stored as recommended. Heating may generate corrosive or toxic fumes: Carbon monoxide and dioxide (CO ₂ and CO), Nitrous oxides (NO _x), Hydrogen chloride

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion	Harmful if swallowed ATE: 1500 mg/kg
Acute toxicity - Skin Contact	Based on available data, the classification criteria are not met ATE > 2000 mg/k
Acute toxicity - Inhalation	Harmful if inhaled ATE: 3.4 mg/l
Skin corrosion/irritation	Causes severe burns (Calculated)
Serious eye damage/irritation	Causes serious eye damage (Corrosive to skin. Corrosivity to eyes is assumed)
Skin sensitization data	May cause an allergic reaction
Respiratory sensitization data	There is evidence that the product can cause respiratory sensitivity
Germ cell mutagenicity	Does not contain any ingredients classified as mutagenic
Carcinogenicity	Does not contain any ingredients classified as carcinogenic
Reproductive toxicity	Does not contain any ingredients classified as toxic to reproduction
Lactation	Based on available data, the classification criteria are not met
STOT - single exposure	May cause respiratory irritation
STOT - repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met

11.1.2 Toxicological Data

	LD50 (Ingestion) mg/kg	LC50 (Inhalation) mg/l	LD50 (Skin Contact) mg/kg
Glutaral	285	0.28	> 2000
Bronopol	305	0.59	> 2000
Reaction Mass Isothiazolins	64	0.33	87
Copper nitrate	794	Not available	Not available
Methanol	Not available	Not available	Not available

11.1.5 Symptoms/routes of exposure

Skin contact	May cause sensitisation or allergic reactions in sensitive individuals. Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness
Ingestion	May cause sensitisation or allergic reactions in sensitive individuals. May cause chemical burns in the mouth, oesophagus and stomach. Symptoms following overexposure may include the following: Severe stomach pain. Nausea, Vomiting
Inhalation	May cause sensitisation or allergic reactions in sensitive individuals. Corrosive to the respiratory tract. Symptoms following overexposure may include the following: Severe irritation of nose and throat.

11.1.6 Symptoms related to the potential physical, chemical and toxicological characteristics

Skin disorders, allergies, breathing difficulty

11.1.7 Delayed and immediate effects as well as chronic effects from short and long term exposure

Inhalation and ingestion may cause following adverse effects: Irritation of mouth, throat and respiratory tract, coughing, dizziness, drowsiness, headache, nausea, vomiting, stomach pain, central nervous system depression. Skin contact may cause irritation, redness and blistering

11.1.10 Mixtures

Mixture has not been tested for effects as a whole. In order to avoid duplication of text: overexposure to the ingredient Glutaral produces the symptoms described in Sections 11.1.5 to 11.1.7

11.2.1 Endocrine disrupting properties

Does not contain any ingredients with endocrine disrupting properties

11.2.2 Information on other hazards

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

The product contains substances at concentrations that are calculated to have hazardous effects on the environment

Toxicity - Fish
Toxicity - Aquatic invertebrates
Toxicity - Algae

ATE: 1 mg/l
ATE: 0.38 mg/l
ATE: 1 mg/l

	LC50 (Fish) mg/L	EC50 (Daphnia) mg/L	EC50 (Algae) mg/L
Glutaral	13	15	0.75
Bronopol	35.7	1.4	0.25
Reaction Mass Isothiazolins	0.19	0.18	0.037
Copper nitrate	0.003	0.001	0.016

12.2 Persistence and Degradation

The ingredients of the product are not rapidly biodegradable

12.3 Bioaccumulative potential

The ingredients of the product are not bioaccumulative

	Log KoW	BCF
Glutaral	13	15
Bronopol	35.7	1.4
Reaction Mass Isothiazolins	0.75	Test not performed Low potential for bioaccumulation
Copper nitrate	0.003	0.001

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

The ingredients of the product are not classified as PBT or vPvB

12.6 Endocrine disrupting properties

The European Chemical Agency Endocrine Disruptor Assessment List does not include any of the product's ingredients

12.7 Other adverse effects

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods



Minimise or avoid the generation of waste wherever possible. Reuse or recycle products wherever possible. Dispose of this product, process solutions, residues and by-products in accordance with local and national legislation. When handling waste, follow the safety precautions that apply to the handling of the product. Take care when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some hazardous residues.

Do not empty into drains. Dispose of surplus products that cannot be recycled to a licensed waste disposal contractor. Collect waste, residues, empty containers, discarded work clothes and contaminated cleaning materials in designated and labelled containers. Disposal is normally by incineration.

13.2 Additional Information

Disposal should be in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number (ADR, RID, ADN, IATA, ICAO, IMDG)	UN1760
14.2 UN proper shipping name	CORROSIVE LIQUID, N.O.S. (CONTAINS GLUTARAL, MIXTURE OF 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE (EC 247-500-7) AND 2-METHYL-4-ISOTHIAZOLIN-3-ONE (EC 220-239-6))
14.3 Transport hazard class(es)	8 ADR/RID classification code: C9
Transport labels	
14.4 Packing group	III
14.5 Environmental hazards	Environmentally hazardous substance/marine Pollutant
	
14.6 Special precautions for user	Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know the procedure in the event of an accident or spillage
EmS	F-A, S-B
ADR Transport category	2
Emergency Action Code	2X
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	E
14.7 Maritime transport in bulk According to IMO instruments	Not applicable

SECTION 15: REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

National Regulations Health and Safety at Work etc. Act 1974 (As amended)
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009
EH40/2005 Workplace Exposure Limits
The REACH etc. (Amendment etc)(EU Exit) Regulations 2020
The GB Biocides Regulation 2020

European Regulations - Authorisations and/or Restrictions On Use

(EC) 1907/2006 (REACH) and amendments
(EC)1272/2008 - Classification, Labelling & Packaging Regulation
(EU) 528/2012 – Biocides Regulation

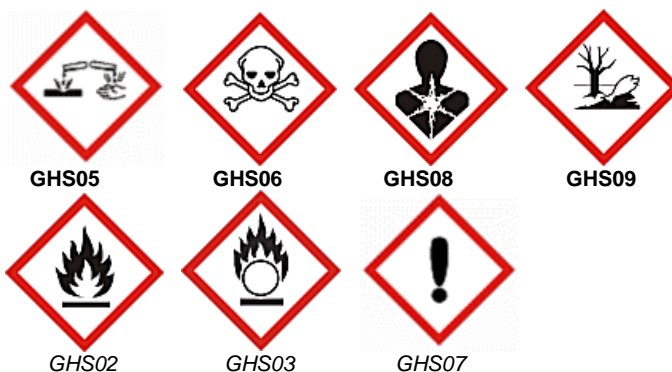
15.2 Chemical Safety Assessment A REACH chemical safety assessment has not been carried out by the supplier

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: #1 to #16

LEGEND

Hazard Pictogram(s)
Section #2 and Section #3



Hazard classification
Section #2

Acute Toxicity (Ingestion)	Category 3
Acute Toxicity (Inhalation)	Category 2
Skin Corrosion	Category 1B
Eye Damage	Category 1
Respiratory Sensitising	Category 1
Skin Sensitising	Category 1
STOT Single Exposure (Respiration)	Category 3

Hazard Statement(s)
Section #2 and Section #3

H302: Harmful if swallowed
H331: Toxic if inhaled
H314: Causes severe skin burns and eye damage
H317: May cause an allergic skin reaction
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335: May cause respiratory irritation
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects

H272: May intensify fire; oxidiser
H301: Toxic if swallowed
H311: Toxic in contact with skin
H312: Harmful in contact with skin
H315: Causes skin irritation
H318: Causes serious eye damage
H331: Toxic if inhaled
H335: May cause respiratory irritation
H370: Causes damage to organs
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects
H411: Toxic to aquatic life with long lasting effects
EUH71: Corrosive to the respiratory tract

Acronyms

AND: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement on the International Carriage of Dangerous Goods by Road
ATE: Acute Toxicity Estimate
BCF: Bioaccumulation Concentration Factor
CAS : Chemical Abstracts Service
CLP : Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL : Derived No Effect Level
EC : European Community
ECHA: European Chemical Agency
EH40: UK Health and Executive EH40/2005 publication – Workplace exposure limits
EINECS : European Inventory of Existing Commercial Chemical Substances
IATA: International Air Transport Authority
IBC: International Bulk Carriers
ICAO:International Civil Aviation Organisation
IEC: International Electrotechnical Commission
IMDG:International Maritime Dangerous Goods (Code)
LTEL : Long term exposure limit

PBT : Persistent, Bioaccumulative and Toxic
PNEC : Predicted No Effect Concentration
REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals
RID: Agreement on the International Carriage of Dangerous Goods by Rail
STEL : Short term exposure limit
STOT : Specific Target Organ Toxicity
vPvB : very Persistent and very Bioaccumulative

Sources of information	UK Health and Executive EH40/2005 publication – Workplace exposure limits European Chemical Agency : Guidance and Registered Substances Database Suppliers' Safety Data Sheets
Calculation, classification and labelling methods	(EC) 1272/2008: Annex I Additivity Method (Acute Toxicity) “ Summation Method (Aquatic toxicity) Tables 3.2.3, 3.3.3 and 3.7.2 (Irritation etc) Annex IV ECHA Guidance Notes
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