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 327
CAS No.	Mixture
EC No.	Mixture
REACH Registration No	Not applicable
Unique Formulation Identifier	

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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 (Inhalation)	Category 3
	Eye Damage	Category 1
	Skin Sensitising	Category 1

2.2 Label elements — According to Regulation (EC) No. 1272/2008 (CLP)

Product Name: Hydrocid 327

Hazard Pictogram(s)

GHS06 GHS05 GHS07

Signal Word(s): Danger

Hazard Statement(s):
H331: Toxic if inhaled
H318: Causes serious eye damage
H317: May cause an allergic skin reaction

Precautionary Statement(s):
P280: Wear protective gloves/protective clothing/eye protection/face protection
P302+P352: IF ON SKIN: Wash with plenty of water
P333+P313: If skin irritation or rash occurs: Get medical advice/attention
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 : 2,2-Dibromo-2-cyanoacetamide

Supplementary precautionary statements	P264: Wash contaminated skin thoroughly after handling P270: Do not eat, drink or smoke when using this product P272: Contaminated work clothing should not be allowed out of the workplace P301+P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell P330: Rinse mouth 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)
2,2-Dibromo-2-cyanoacetamide	10222-01-2	233-539-7 / Not registered	5 – 9.9	Acute Tox. 3 H301 Acute Tox. 2 H330 Skin Irrit. 2 H315 Eye Dam. 1 H318 Skin Sens. 1 H317 Aquatic Acute 1 H400 (M factor (Acute) =1)	GHS05 GHS06 GHS07 GHS09

See Section 16 for full text of abbreviations

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Remove affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Obtain medical attention if breathing remains difficult.
Skin Contact	Remove contaminated clothing and footwear. Wash skin thoroughly with soap and water. Get medical attention if symptoms are severe or persevere after washing.
Eye Contact	Rinse immediately with plenty of water. Remove contact lenses if present and easy to do so. Continue to rinse for at least 10 minutes. Obtain medical attention if irritation persists after washing or vision is blurred
Ingestion	If patient is conscious, wash out mouth with water and make patient drink plenty of water. Do NOT induce vomiting. If vomiting occurs, keep head low so that vomit does not enter the lungs. Obtain medical attention if discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed

Skin contact	May cause sensitisation or allergic reactions
Eye contact	Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness
Ingestion	Symptoms following overexposure may include the following: Stomach pain. Nausea, Vomiting
Inhalation	Irritation of nose, throat and airway
	See also Section 11

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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

Combustion evolves toxic or corrosive gases: Carbon oxides and Bromine.

5.3 Advice for firefighters

Avoid breathing fire gases or vapours. Cool containers exposed to fire with water spray. Remove then from the fire area if it can be done without risk. Ventilate closed spaces before entering them.

Special protective equipment

Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing, gloves and eye/face protection. Take care as floors and other surfaces may become slippery. Avoid inhalation of vapours and spray/mists. Avoid contact with skin and eyes. Provide adequate ventilation.

6.2 Environmental precautions

Avoid discharge to the aquatic environment. If necessary, dike the product with dry earth, sand or similar non-combustible materials.

6.3 Methods and material for containment and cleaning up

Wear protective clothing as described in Section 8 of this Safety Data Sheet. Absorb spillage with sand, earth or other non-combustible material. Transfer waste to labelled, sealed containers. Flush contaminated area with plenty of water. 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 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. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation. Persons susceptible to allergies should not handle this product.

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 a cool and well-ventilated place.

Storage temperature	Ambient.
Storage life	Stable under normal conditions.
Incompatible materials	Strong alkalis. Strong oxidising 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) Not applicable
DNEL	Not available
PNEC	Not available

8.2 Exposure controls

8.2.1. Appropriate engineering controls	Provide adequate ventilation. Use process enclosures and other engineering controls including local exhaust ventilation to minimise worker 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.

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.

8.2.3. Environmental Exposure Controls — Keep container tightly sealed when not in use.

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. 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	Amber
Odour	Almost odourless
pH	Not available
Melting point/freezing point	-10 degC
Initial boiling point and boiling range	> 70 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 70 degC
Viscosity at 20 degC	1-1 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 exothermically 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
Will not polymerise

10.4 Conditions to avoid — Avoid excessive heat for prolonged periods of time

10.5 Incompatible materials — Strong alkalis. Strong oxidising agents.

10.6 Hazardous decomposition products

Does not decompose when used and stored as recommended. Thermal decomposition or combustion may generate corrosive or toxic fumes: Carbon monoxide and dioxide (CO2 and CO), Bromine

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion	Based on available data, the classification criteria are not met ATE>2000 mg/kg
Acute toxicity - Skin Contact	Based on available data, the classification criteria are not met ATE > 2000 mg/kg
Acute toxicity - Inhalation	Harmful if inhaled ATE: 2.4 mg/l
Skin corrosion/irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Causes serious eye damage (Calculated)
Skin sensitization data	May cause an allergic reaction
Respiratory sensitization data	Based on available data, the classification criteria are not met
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	Based on available data, the classification criteria are not met
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
2,2-Dibromo-2-cyanoacetamide	308	0.28	> 2000

11.1.5 Symptoms/routes of exposure

Skin contact

May cause sensitisation or allergic reactions in sensitive individuals. Symptoms following overexposure may include the following: Irritation. Redness.

Eye contact

Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness

Ingestion

Symptoms following overexposure may include the following: Stomach pain. Nausea, Vomiting

Inhalation

Symptoms following overexposure may include the following: Shortness of breath, nausea, headache, vomiting

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: coughing, dizziness, drowsiness, headache, nausea, vomiting, stomach pain, central nervous system depression.
Skin contact may cause irritation and redness

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 2,2-Dibromo-2-cyanoacetamide produces the symptoms described in Sections 11.1.5 to 11.1.7

11.2.1 Endocrine disrupting properties

2,2-Dibromo-2-cyanoacetamide is under assessment as endocrine disrupting

11.2.2 Information on other hazards

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity - Fish	Based on available data, the classification criteria are not met ATE = 34 mg/l
Toxicity - Aquatic invertebrates	Based on available data, the classification criteria are not met ATE = 23 mg/l
Toxicity - Algae	Based on available data, the classification criteria are not met ATE = 7.2 mg/l

	LC50 (Fish) mg/L	EC50 (Daphnia) mg/L	EC50 (Algae) mg/L
2,2-Dibromo-2-cyanoacetamide	3.4	0.72	2.3

12.2 Persistence and Degradation The ingredients of the product are not readily biodegradable

12.3 Bioaccumulative potential The ingredients of the product are not bioaccumulative

12.4 Mobility in soil Information not 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 2,2-Dibromo-2-cyanoacetamide is under assessment as endocrine disrupting

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. When handling waste, follow the safety precautions that apply to the handling of the product. Dispose of this product, process solutions, residues and by-products in accordance with local and national legislation. Disposal is normally by incineration by a licensed waste disposal contractor

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) Product is not covered by international regulations on the transport of dangerous goods

14.2 UN proper shipping name Not applicable

14.3 Transport hazard class(es) Not applicable

Transport labels Not applicable

14.4 Packing group Not applicable

14.5 Environmental hazards Not applicable

Not applicable

14.6 Special precautions for user Not applicable

EmS Not applicable

ADR Transport category Not applicable

Emergency Action Code Not applicable

Hazard Identification Number (ADR/RID) Not applicable

Tunnel restriction code

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
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*


GHS06


GHS05


GHS07


GHS09

Hazard classification Section #2	Acute Toxicity (Inhalation) Eye Damage Skin Sensitising	Category 3 Category 1 Category 1

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

H331: Toxic if inhaled
H318: Causes serious eye damage
H317: May cause an allergic skin reaction

H301: Toxic if swallowed
H330: Fatal if inhaled
H400: Very toxic to aquatic life

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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