

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 Hydrocor 231  
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) Anti-scale/corrosion and mobilisation chemical for cooling 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) Toxic to aquatic life with long lasting effects Category 2

### 2.2 Label elements

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

Product Name Hydrocor 231

Hazard Pictogram(s)



GHS09

Signal Word(s) Warning

Hazard Statement(s) H411: Toxic to aquatic life with long lasting effects  
EUH208: Contains 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) – May produce an allergic 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  
P337+P313: If eye irritation persists: Get medical advice/attention  
P501: Dispose of contents in accordance with local, state or national legislation

Supplementary precautionary statements

P261: Avoid breathing vapour/spray  
P264: Wash contaminated skin thoroughly after handling  
P272: Contaminated work clothing should not be allowed out of the workplace  
P273: Avoid release to the environment  
P362+P364: Take off contaminated clothing and wash before reuse

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-phosphonobutane-1,2,4-tricarboxylic acid	37971-36-1	253-733-5 / 01-211943643-39-xxxx	5-9.9	Met. Corr. 1 H290 Eye Irrit. 2 H319	GHS07
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	0.025-0.24	Acute Tox. 3 H301 Acute Tox. 2 H311 Acute Tox.2 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

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. Rinse 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
Ingestion	If patient is conscious, wash out mouth with water and make patient drink plenty of water (200-300 ml). 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

<b>Skin contact</b>	May cause sensitisation or allergic reactions in sensitive individuals. Symptoms following overexposure may include the following: Irritation. Redness.
<b>Eye contact</b>	Causes irritation. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness
<b>Ingestion</b>	Symptoms following overexposure may include the following: Stomach pain. Nausea, Vomiting
<b>Inhalation</b>	Symptoms following overexposure may include the following: Irritation of the nose and throat.

See also Section 11

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

Treat symptomatically.

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**SECTION 5: FIREFIGHTING MEASURES**

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**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: Carbon monoxide and dioxide (CO<sub>2</sub> and CO) and Phosphorous oxides (PO<sub>x</sub>).

**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. Contain run-off water to prevent entering sewers and watercourses.

**Special protective equipment**

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

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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**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. Stop leak if possible to do so without risk. Absorb spillage with sand, earth or other non-combustible material. Transfer waste to sealed containers. 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.

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**SECTION 7: HANDLING AND STORAGE**

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**7.1 Precautions for safe handling**

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.

Follow principles of good occupational hygiene. Wash hands thoroughly after handling. Persons susceptible to allergies should not handle this product.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in tightly-closed original container in a cool and well-ventilated place.

Storage temperature  
Storage life  
Incompatible materials

Ambient.  
Stable under normal conditions.  
Strong alkalis

**7.3 Specific end use(s)**

Anti-scale/corrosion and mobilisation chemical for cooling water treatment

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**SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION**

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**8.1 Control parameters**

8.1.1 Occupational Exposure Limits UK (EH40/2005 Fourth Edition 2020) Not applicable

DNEL  
PNEC

Not available  
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 a particle filter or 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. Avoid discharge to the aquatic environment.
- Additional comments Provide eyewash station. Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. 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	Straw
Odour	Almost odourless
pH	4
Melting point/freezing point	-5 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)	1.06-1.10
Relative density	1.06-1.10
Solubility(ies)	Miscible in 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	Not available
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

## 10.6 Hazardous decomposition products

Does not decompose when used and stored as recommended. Thermal decomposition or combustion may generate Carbon monoxide and dioxide (CO<sub>2</sub> and CO) and Phosphorous oxides (PO<sub>x</sub>).

## 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 > 5 mg/kg
Acute toxicity - Inhalation	Based on available data, the classification criteria are not met ATE > 2000 mg/kg
Skin corrosion/irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Irritating to eyes (Calculated)
Skin sensitization data	Based on available data, the classification criteria are not met
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	Data not available
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-phosphonobutane-1,2,4-tricarboxylic acid	6500	1.98	4000
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)	64	0.33	87

### 11.1.5 Symptoms/routes of exposure

<b>Skin contact</b>	May cause sensitisation or allergic reactions in sensitive individuals. Symptoms following overexposure may include the following: Irritation. Redness.
<b>Eye contact</b>	Causes eye irritation. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness
<b>Ingestion</b>	Symptoms following overexposure may include the following: Severe stomach pain. Nausea, Vomiting
<b>Inhalation</b>	Symptoms following overexposure may include the following: Irritation of the nose and throat.

**11.1.6 Symptoms related to the potential physical, chemical and toxicological characteristics** Skin disorders, 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.

2-phosphonobutane-1,2,4-tricarboxylic acid Irritating to eyes

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) Toxic if swallowed, inhaled or on skin Symptoms following overexposure may include the following: Severe stomach pain. Nausea, Vomiting, Diarrhoea.  
May produce an allergic skin reaction

**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**

According to the M-factors for 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), the product is toxic to aquatic life with long-lasting effects.

Toxicity - Fish  
Toxicity - Aquatic invertebrates  
Toxicity - Algae

ATE> 10 mg/l  
ATE> 10 mg/l  
ATE> 10 mg/l

	LC50 (Fish) mg/L	EC50 (Daphnia) mg/L	EC50 (Algae) mg/L
2-phosphonobutane-1,2,4-tricarboxylic acid	1.04	1.07	140
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)	0.19	0.18	0.037

**12.2 Persistence and Degradation**

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) is biodegradable

**12.3 Bioaccumulative potential**

The ingredients of the product are not bioaccumulative

	Log KoW	BCF
2-phosphonobutane-1,2,4-tricarboxylic acid	-1.36	Test not performed: Low potential for bioaccumulation
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)	0.75	Test not performed: Low potential for bioaccumulation

**12.4 Mobility in soil**

Data 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**

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. When handling waste, follow the safety precautions that apply to the handling of the product. Do not discharge into drains or watercourses or onto the ground. Dispose of this product in accordance with local and national legislation. Disposal is normally 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

<b>14.3 Transport hazard class(es)</b>	Not applicable
<b>Transport labels</b>	Not applicable
<b>14.4 Packing group</b>	Not applicable
<b>14.5 Environmental hazards</b>	Not applicable
<b>14.6 Special precautions for user</b>	
<b>EmS</b>	Not applicable
<b>ADR Transport category</b>	Not applicable
<b>Emergency Action Code</b>	Not applicable
<b>Hazard Identification Number (ADR/RID)</b>	Not applicable
<b>Tunnel restriction code</b>	Not applicable
<b>14.7 Maritime transport in bulk According to IMO instruments</b>	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 Chemicals (Hazard Information and Packaging for Supply) Regulations 2009  
EH40/2005 Workplace Exposure Limits  
The REACH etc. (Amendment etc)(EU Exit) Regulations 2020

**European Regulations - Authorisations and/or Restrictions On Use**  
(EC) 1907/2006 (REACH) and amendments  
(EC)1272/2008 - Classification, Labelling & Packaging 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



GHS09



GHS05



GHS07



GHS08

**Hazard classification** Toxic to aquatic life with long lasting effects Category 2  
Section #2

**Hazard Statement(s)** H411: Toxic to aquatic life with long lasting effects  
Section #2 and Section #3 EUH208: Contains 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) – May produce an allergic reaction

H290: May be corrosive to metals  
H301: Toxic if swallowed  
H310: Fatal in contact with skin

*H312: Harmful in contact with skin*  
*H315: Causes skin irritation*  
*H317: May cause an allergic skin reaction*  
*H318: Causes serious eye damage*  
*H319: Causes serious eye irritation*  
*H331: Toxic if inhaled*  
*H400: Very toxic to aquatic life*  
*H410: Very toxic to aquatic life with long lasting effects*

## 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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