

COOL-D5

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Issue date: 1/30/2024 Revision date: 1/30/2027

Version: 1.3

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

1.1. Product identifier

Product form	: Substance
Trade name	: COOL-D5
CAS-No.	: 16079-88-2
Product code	: COOL-D5
Product group	: Trade product

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

1.2.1. Relevant identified uses

Main use category	: Industrial use
Use of the substance/mixture	: Biocide

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ImproChem(Pty) Ltd T/A AECI Water
1 Wharhirst Road
Umbogintwini - South Africa
T +27(31) 949 8200

1.4. Emergency telephone number

Emergency number : 0800 SPILLS or 0800 774557

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Oxidising Solids, Category 3	H272
Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 1, Sub-Category 1B	H314
Serious eye damage/eye irritation, Category 1	H318
Skin sensitisation, Category 1	H317
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400

Full text of H- and EUH-statements: see section 16

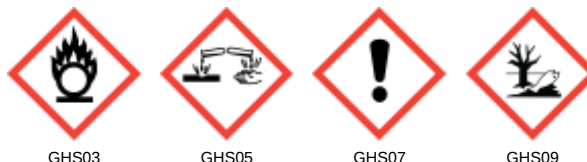
Adverse physicochemical, human health and environmental effects

Very toxic to aquatic life. May intensify fire; oxidiser. Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) : Danger

Hazard statements (CLP) :
H272 - May intensify fire; oxidiser.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H400 - Very toxic to aquatic life.

Precautionary statements (CLP) :
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P221 - Take any precaution to avoid mixing with combustibles.
P280 - Wear goggles, gloves, clothing and respiratory protection
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Labelling according to Directive 67/548/EEC or 1999/45/EC

2.3. Other hazards

PBT: not relevant – no registration required
vPvB: not relevant – no registration required

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%
1-BROMO-3-CHLORO-5,5-DIMETHYLHYDANTOIN (BCDMH)	(CAS-No.) 16079-88-2	100

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice. Treat symptomatically.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Seek medical advice.
First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Get immediate medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion : Do not induce vomiting. Rinse mouth with water. Immediately consult a doctor/medical service.

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

Symptoms/effects : Causes severe skin burns and eye damage. Harmful if swallowed. May cause an allergic skin reaction.
Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Causes skin burns.
Symptoms/effects after eye contact : Causes serious eye damage.
Symptoms/effects after ingestion : Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

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 : Water spray. Alcohol-resistant foam.
Unsuitable extinguishing media : Carbon dioxide. Dry chemical powder. Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Decomposes on heating above decomposition temperature, releasing toxic fumes.
Hazardous decomposition products in case of fire : Toxic fumes may be released. Chlorine. Carbon dioxide. Carbon monoxide. Nitrogen oxides. bromine.

5.3. Advice for firefighters

Precautionary measures fire : Move containers from fire area if it can be done without personal risk.
Firefighting instructions : Evacuate area. If exposed to fire cool the closed containers by spraying with water.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information : Prevent runoff from entering water courses, sewers and basements.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid dust formation. Evacuate area. Ventilate area.

6.1.1. For non-emergency personnel

Protective equipment : Wear full protective clothing and breathing apparatus when dealing with all spillage (see section 8).

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Stop leak if safe to do so. Ventilate area.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Mechanically recover the product.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid dust formation. Keep away from combustible materials.

Precautions for safe handling : Avoid contact with skin, eyes and clothing. Ensure good ventilation of the work station. Wear recommended personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Keep away from combustible materials. avoid contact with acids. Avoid contact with moisture.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Avoid dust formation. Facilities: shower, eye shower. Provide local exhaust or general room ventilation.

Storage conditions : Keep away from ignition sources. Keep container tightly closed and dry. Keep in a cool, well-ventilated place away from acids. Keep cool. Protect from sunlight.

Incompatible products : Acids. combustible materials. Moisture.

Heat and ignition sources : Keep away from ignition sources.

Packaging materials : Keep only in the original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Personal protective equipment : Protective goggles. Face shield. Protective clothing. Gloves, shoulder length. Safety Boots. Apron.

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Hand protection	: Shoulder-length gloves - EN 388, EN 374, EN 374-3, PVC C400
Eye protection	: Spoggles (not safety glasses) - EN166, UVEX, Pyramex Capstone . Face shield
Skin and body protection	: Full conti-suit/overall (Jacket and pants) - Acid resistant and flame retardant with reflective stripes - SANS 434, EN 471, EN 469, EN 533. Chemical resistant apron
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment. Dust formation: dust mask



Environmental exposure controls	: Avoid release to the environment.
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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: tablet.
Colour	: Off-white.
Odour	: chlorine-like.
Odour threshold	: No data available
pH	: No data available
pH solution	: 0.15 (≥ 3.5) %
Relative evaporation rate (butylacetate=1)	: < 1
Melting point	: 0 (156 – 162) °C
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 162 °C
Flammability	: Non flammable.
Vapour pressure	: 0.0038 Pa @ 25 C
Relative vapour density at 20°C	: No data available
Relative density	: 0.9 Not applicable
Solubility	: Very slightly soluble in cold water. Water: 0.15 g/100ml @ 20 C
Partition coefficient n-octanol/water (Log Pow)	: 0.35
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable

9.2. Other information

Bulk density	: 900 kg/m ³
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SECTION 10: Stability and reactivity

10.1. Reactivity

Materials that possess oxidizing properties.

10.2. Chemical stability

Stable under normal conditions. Avoid contact with moisture.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Acids. Alkali. Reducing agents.

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10.6. Hazardous decomposition products

Toxic gases/vapours/fumes of Hydrogen Bromide. Bromine. Hydrogen Chloride. Chlorine. Oxides of Carbon . Nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

1-BROMO-3-CHLORO-5,5-DIMETHYLHYDANTOIN (BCDMH) (16079-88-2)

LD50 oral rat	578 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Skin corrosion/irritation : Causes severe skin burns.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

COOL-D5 (16079-88-2)

Viscosity, kinematic	Not applicable
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic organisms.

1-BROMO-3-CHLORO-5,5-DIMETHYLHYDANTOIN (BCDMH) (16079-88-2)

LC50 - Fish [1]	1.2 mg/l Bluegill Sunfish
LC50 - Fish [2]	0.71 mg/l Fathead Minnow
LC50 - Other aquatic organisms [1]	0.5 mg/l Trout
LC50 - Other aquatic organisms [2]	0.4 mg/l Daphnia

12.2. Persistence and degradability

1-BROMO-3-CHLORO-5,5-DIMETHYLHYDANTOIN (BCDMH) (16079-88-2)

Persistence and degradability	Readily biodegradable in water.
Chemical oxygen demand (COD)	1.005 g O ₂ /g substance
Biodegradation	> 99 % 42 days

12.3. Bioaccumulative potential

1-BROMO-3-CHLORO-5,5-DIMETHYLHYDANTOIN (BCDMH) (16079-88-2)

Bioconcentration factor (BCF REACH)	< 1.79
Partition coefficient n-octanol/water (Log Pow)	0.35
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

1-BROMO-3-CHLORO-5,5-DIMETHYLHYDANTOIN (BCDMH) (16079-88-2)

PBT: not relevant – no registration required
vPvB: not relevant – no registration required

12.6. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

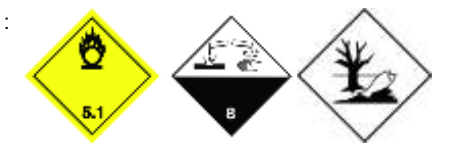
UN-No. (ADR) : 3085
UN-No. (IMDG) : 3085
UN-No. (IATA) : 3085

14.2. UN proper shipping name

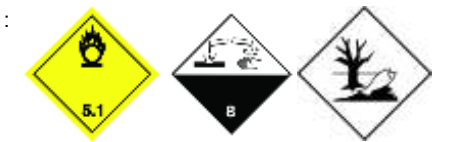
Proper Shipping Name (ADR) : OXIDIZING SOLID, CORROSIVE, N.O.S.
Proper Shipping Name (IMDG) : OXIDIZING SOLID, CORROSIVE, N.O.S.
Proper Shipping Name (IATA) : Oxidizing solid, corrosive, n.o.s.
Transport document description (ADR) : UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S. ((1-Bromo-3-Chloro-5,5-dimethylhydantoin)), 5.1 (8), II, (E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG) : UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S. ((1-Bromo-3-Chloro-5,5-dimethylhydantoin)), 5.1 (8), II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA) : UN 3085 Oxidizing solid, corrosive, n.o.s. ((1-Bromo-3-Chloro-5,5-dimethylhydantoin)), 5.1 (8), II, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

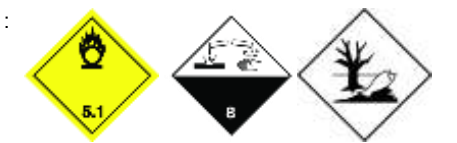
ADR
Transport hazard class(es) (ADR) : 5.1 (8)
Danger labels (ADR) : 5.1, 8



IMDG
Transport hazard class(es) (IMDG) : 5.1 (8)
Danger labels (IMDG) : 5.1, 8



IATA
Transport hazard class(es) (IATA) : 5.1 (8)
Danger labels (IATA) : 5.1, 8



14.4. Packing group

Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II

14.5. Environmental hazards

Dangerous for the environment : Yes
Marine pollutant : Yes
Other information : No supplementary information available

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14.6. Special precautions for user

- Overland transport

Classification code (ADR)	: OC2
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 1kg
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P002, IBC06
Mixed packing provisions (ADR)	: MP2
Portable tank and bulk container instructions (ADR)	: T3
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAN
Tank special provisions (ADR)	: TU3
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V11
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV24
Hazard identification number (Kemler No.)	: 58
Orange plates	:



Tunnel restriction code (ADR)	: E
EAC code	: 1W

- Transport by sea

Special provisions (IMDG)	: 274
Limited quantities (IMDG)	: 1 kg
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P002
IBC packing instructions (IMDG)	: IBC06
IBC special provisions (IMDG)	: B2
Tank instructions (IMDG)	: T3
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-Q
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: H1
Segregation (IMDG)	: SG38, SG49, SG60
Properties and observations (IMDG)	: Causes burns to skin, eyes and mucous membranes. Particular care in handling should be exercised if packages have become wetted.

- Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y544
PCA limited quantity max net quantity (IATA)	: 2.5kg
PCA packing instructions (IATA)	: 558
PCA max net quantity (IATA)	: 5kg
CAO packing instructions (IATA)	: 562
CAO max net quantity (IATA)	: 25kg
Special provisions (IATA)	: A3
ERG code (IATA)	: 5C

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

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Not listed on REACH Annex XVII
Not listed on the REACH Candidate List
Not listed on REACH Annex XIV (Authorisation List)

15.1.2. National regulations

Germany

Regulatory reference : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV)
Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed
SZW-lijst van mutagene stoffen : The substance is not listed
SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : The substance is not listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.
NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.
NFPA specific hazard : OX - Materials that posses oxidizing properties.



Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
Ox. Sol. 3	Oxidising Solids, Category 3
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Sens. 1	Skin sensitisation, Category 1

SDS ImproChem Test

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