SAFETY DATA SHEET

CalChem

This Safety Data Sheet contains information concerning the potential risks to those involved in handling, transporting and working with the material, as well as describing potential risks to the consumer and the environment. This information must be made available to those who may come into contact with the material or are responsible for the use of the material. This Safety Data Sheet is prepared in accordance with formatting described in the REACH Regulation (EC) No 1907/2006, and described in CLP Regulation (EC) No 1272/2008.

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

1.1. Product identifier

Product form	:	Mixture
Trade name	:	Calmag CalChem
Product code	:	CHEM-CALCHEM
Type of product	:	Descaler, Cleaner and Inhibitor
Product group	:	Blend

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

1.2.1. Relevant identified uses

Industrial/Professional use spec	:	Industrial For professional use only
Use of the substance/mixture	:	To give complete protection to central heating systems

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Calmag (Yorkshire) Ltd
Riverview Buildings
Bradford Road, Riddlesden
Keighley
West Yorkshire
BD20 5JH
Tel: 01535 210320
Fax: 01535 210321
Email: sales@calmagltd.com
Web: www.calmagltd.com

E-mail address of competent person responsible for the SDS : sales@calmagltd.com

1.4. Emergency telephone number

Emergency number : Tel. 01535 210320 (9.00am – 5.00pm Mon-Fri except Public Holidays)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin sensitisation, Category 1 H317

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

May cause an allergic skin reaction.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07

Signal word (CLP) : Warning

Contains : reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)

Hazard statements (CLP) : H317 - May cause an allergic skin reaction.

Precautionary statements (CLP) : P261 - Avoid breathing vapours, spray, mist.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective gloves, eye protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P501 - Dispose of hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ethanediol; ethylene glycol substance with a Community workplace exposure limit substance with national workplace exposure limit(s) (GB)	(CAS-No.) 107-21-1 (EC-No.) 203-473-3 (EC Index-No.) 603-027-00-1 (REACH-no) 01-2119456816-28-XXXX	< 0.1	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
formaldehyde …% substance with a Community workplace exposure limit substance with national workplace exposure limit(s) (GB) (Note B)(Note D)	(CAS-No.) 50-00-0 (EC-No.) 200-001-8 (EC Index-No.) 605-001-00-5 (REACH-no) 01-2119488953-20-XXXX	< 0.1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Corr. 1B, H314 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) (Note B)	(CAS-No.) 55965-84-9 (EC Index-No.) 613-167-00-5	< 0.1	Acute Tox. 2 (Inhalation), H330 Acute Tox. 2 (Dermal), H310 Acute Tox. 3 (Oral), H301 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100)
propan-2-ol; isopropyl alcohol; isopropanol substance with national workplace exposure limit(s) (GB)	(CAS-No.) 67-63-0 (EC-No.) 200-661-7 (EC Index-No.) 603-117-00-0 (REACH-no) 01-2119457558-25-XXXX	< 0.1	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

Specific concentration limits:		
Name	**Product identifier**	**Specific concentration limits**
formaldehyde …%	(CAS-No.) 50-00-0 (EC-No.) 200-001-8 (EC Index-No.) 605-001-00-5 (REACH-no) 01-2119488953-20-XXXX	(0.2 ≤C < 100) Skin Sens. 1, H317 (5 ≤C < 100) STOT SE 3, H335 (5 ≤C < 25) Eye Irrit. 2, H319 (5 ≤C < 25) Skin Irrit. 2, H315 (25 ≤C < 100) Skin Corr. 1B, H314
reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	(CAS-No.) 55965-84-9 (EC Index-No.) 613-167-00-5	(0.0015 ≤C ≤ 100) Skin Sens. 1A, H317 (0.06 ≤C < 0.6) Eye Irrit. 2, H319 (0.06 ≤C < 0.6) Skin Irrit. 2, H315 (0.6 ≤C ≤ 100) Eye Dam. 1, H318 (0.6 ≤C ≤ 100) Skin Corr. 1C, H314

Note B : Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid … %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.
Note D : Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.
Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Rinse eyes with water as a precaution.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor if you feel unwell.

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

Symptoms/effects after skin contact : May cause an allergic skin reaction.

Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

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 : Foam. Dry powder. Carbon dioxide. Water spray. Sand. Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : While not normally combustible, if water content is lost (as in a fire), material may release flammable vapours if exposed to high temperature.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Evacuate unnecessary personnel. Avoid contact with skin and eyes. Avoid breathing vapours, spray, mist.

6.1.2. For emergency responders

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

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak without risks if possible.

Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

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

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Provide good ventilation in process area to prevent formation of vapour. Avoid contact with skin and eyes. Avoid breathing mist, spray, vapours. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Keep only in the original container in a cool, well ventilated place away from : Direct sunlight. Keep container closed when not in use.
Incompatible products	:	Strong bases. Strong acids.
Incompatible materials	:	Sources of ignition. Direct sunlight.
Storage area	:	Protect from freezing.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

propan-2-ol; isopropyl alcohol; isopropanol (67-63-0)	
United Kingdom - Occupational Exposure Limits	
Local name	Propan-2-ol
WEL TWA (mg/m³)	999 mg/m³
WEL TWA (ppm)	400 ppm
WEL STEL (mg/m³)	1250 mg/m³
WEL STEL (ppm)	500 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

formaldehyde …% (50-00-0)	
EU - Occupational Exposure Limits	
Local name	Formaldehyde
IOELV TWA (mg/m³)	0.37 mg/m³
IOELV TWA (ppm)	0.3 ppm
IOELV STEL (mg/m³)	0.74 mg/m³ (BOEL)
IOELV STEL (ppm)	0.6 ppm (BOEL)
Notes	Dermal sensitisation
Regulatory reference	DIRECTIVE (EU) 2019/983 (amending Directive 2004/37/EC)
United Kingdom - Occupational Exposure Limits	
Local name	Formaldehyde
WEL TWA (mg/m³)	2.5 mg/m³
WEL TWA (ppm)	2 ppm
WEL STEL (mg/m³)	2.5 mg/m³
WEL STEL (ppm)	2 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

ethanediol; ethylene glycol (107-21-1)	
EU - Occupational Exposure Limits	
Local name	Ethylene glycol
IOELV TWA (mg/m³)	52 mg/m³
IOELV TWA (ppm)	20 ppm

ethanediol; ethylene glycol (107-21-1)	
IOELV STEL (mg/m³)	104 mg/m³
IOELV STEL (ppm)	40 ppm
Notes	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
United Kingdom - Occupational Exposure Limits	
Local name	Ethane-1,2-diol
WEL TWA (mg/m³)	10 mg/m³ particulate 52 mg/m³ vapour
WEL TWA (ppm)	20 ppm vapour
WEL STEL (mg/m³)	104 mg/m³ vapour
WEL STEL (ppm)	40 ppm vapour
Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.2. Exposure controls

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

Personal protective equipment:
Avoid all unnecessary exposure. Gloves. Safety glasses.

Hand protection:					
Wear protective gloves.					
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**	**Standard**
Reusable gloves	Butyl rubber	6 (> 480 minutes)	0.7 mm		EN ISO 374
Disposable gloves	Nitrile rubber (NBR)	2 (> 30 minutes)	0.4 mm		EN ISO 374

Eye protection:
Chemical goggles or safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):

Environmental exposure controls:
Avoid release to the environment.

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Mobile liquid.
Colour	:	Colourless.
Odour	:	characteristic.
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	~ 100 °C
Flash point	:	> 100 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	1.02 g/cm³
Solubility	:	soluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO2). fume.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

propan-2-ol; isopropyl alcohol; isopropanol (67-63-0)	
LD50 oral rat	5045 mg/kg
LD50 dermal rabbit	12800 mg/kg
LC50, male, female, Inhalation, rat	> 10000 ppm (6 Hours, (OECD 403 method))

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) (55965-84-9)	
LD50 oral rat	64 mg/kg
LD50 dermal rabbit	87.12 mg/kg
LC50 inhalation rat (Dust/Mist - mg/l/4h)	0.31 mg/l/4h

formaldehyde …% (50-00-0)	
LD50 oral rat	100 mg/kg bodyweight
LD50 dermal rabbit	270 mg/kg

ethanediol; ethylene glycol (107-21-1)	
LD50 dermal rabbit	> 10600 mg/kg
LD50 dermal	> 3500 mg/kg mouse
LC50 inhalation rat (mg/l)	> 2.5 mg/l

Skin corrosion/irritation : Not classified
Additional information : Based on available data, the classification criteria are not met
Serious eye damage/irritation : Not classified
Additional information : Based on available data, the classification criteria are not met
Respiratory or skin sensitisation : May cause an allergic skin reaction.
Additional information : 'Sensitizing': substances and preparations which, if they are inhaled or if they penetrate the skin, are capable of eliciting a reaction of hypersensitization such that on further exposure to the substance or preparation, characteristic adverse effects are produced.
Germ cell mutagenicity : Not classified
Additional information : Based on available data, the classification criteria are not met
Carcinogenicity : Not classified
Additional information : Based on available data, the classification criteria are not met

formaldehyde …% (50-00-0)	
IARC group	1 - Carcinogenic to humans

Reproductive toxicity : Not classified
Additional information : Based on available data, the classification criteria are not met

STOT-single exposure : Not classified
Additional information : Based on available data, the classification criteria are not met

STOT-repeated exposure : Not classified
Additional information : Based on available data, the classification criteria are not met

ethanediol; ethylene glycol (107-21-1)	
NOAEL, male, oral, rat	150 mg/kg bw/day (12 months)

Aspiration hazard : Not classified
Additional information : Based on available data, the classification criteria are not met

Potential adverse human health effects and symptoms : Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

propan-2-ol; isopropyl alcohol; isopropanol (67-63-0)	
LC50 fish 1	9640 mg/l Fathead minnow (Pimephales promelas)
EC50 72h algae (1)	> 1000 mg/l (Desmodesmus subspicatus)
EC50, daphnia, short term	9714 mg/l (24 Hours, (OECD 202 method))
EC5, microorganisms, Pseudomonas putida	1050 mg/l (16 Hours)

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) (55965-84-9)	
LC50 fish 1	0.58 mg/l Danio rerio
EC50 Daphnia 1	1.02 mg/l
EC50 72h algae (1)	0.379 mg/l Pseudokichneriella subcapitata
NOEC chronic fish	0.02 mg/l
NOEC chronic crustacea	0.1 mg/l
NOEC chronic algae	0.004 mg/l

formaldehyde …% (50-00-0)	
LC50 fish 1	6.18 mg/l striped bass (Morone saxatilis)
EC50 Daphnia 1	5.8 mg/l
EC50 72h algae (1)	3.48 mg/l

ethanediol; ethylene glycol (107-21-1)	
LC50 fish 1	72860 mg/l Fathead minnow (Pimephales promelas)
EC50 Daphnia 1	> 100 mg/l
EC50 96h algae (1)	6500 – 13000 mg/l
NOEC chronic fish	15380 mg/l
NOEC chronic algae	> 100 mg/l

12.2. Persistence and degradability

Aqueous System 8 (WP 8761)	
Persistence and degradability	Not established.

propan-2-ol; isopropyl alcohol; isopropanol (67-63-0)	
Persistence and degradability	Readily biodegradable.

reaction mass of 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1) (55965-84-9)	
Persistence and degradability	Not readily biodegradable.

formaldehyde …% (50-00-0)	
Persistence and degradability	Readily biodegradable.

ethanediol; ethylene glycol (107-21-1)	
Persistence and degradability	Readily biodegradable.
Biochemical oxygen demand (BOD)	1.24 g O_2/g substance
Chemical oxygen demand (COD)	1.22 g O_2/g substance

12.3. Bioaccumulative potential

Aqueous System 8 (WP 8761)	
Bioaccumulative potential	Not established.

propan-2-ol; isopropyl alcohol; isopropanol (67-63-0)	
Partition coefficient n-octanol/water (Log Pow)	0.05
Bioaccumulative potential	No bioaccumulation.

formaldehyde …% (50-00-0)	
Partition coefficient n-octanol/water (Log Pow)	0.35
Bioaccumulative potential	No bioaccumulation.

ethanediol; ethylene glycol (107-21-1)	
Partition coefficient n-octanol/water (Log Pow)	-1.36
Bioaccumulative potential	Low.

12.4. Mobility in soil

propan-2-ol; isopropyl alcohol; isopropanol (67-63-0)	
Surface tension	22.7 mN/m
Ecology - soil	Very mobile. Soluble material/quickly disperses in water.

ethanediol; ethylene glycol (107-21-1)	
Mobility in soil	The substance will not evaporate into the atmosphere from the water surface., Adsorption to solid soil phase is not expected.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

14.6. Special precautions for user

Overland transport
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

Inland waterway transport
Not applicable

Rail transport
Not applicable

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list
Contains no REACH Annex XIV substances
Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.
Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
LC50	Median lethal concentration
LD50	Median lethal dose
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:	
Acute Tox. 2 (Dermal)	Acute toxicity (dermal), Category 2
Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Carc. 1B	Carcinogenicity, Category 1B
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Muta. 2	Germ cell mutagenicity, Category 2

Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1C
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1A	Skin sensitisation, category 1A
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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

1.1 Product identifier
CalChem

1.2 Relevant identified uses of the substance or mixture and uses advised against
Corrosion inhibitor for heating and cooling systems

1.3 Details of the supplier of the safety data sheet
Calmag (Yorkshire) Ltd
Riverview Buildings
Bradford Road, Riddlesden
Keighley
West Yorkshire
BD20 5JH

Tel: 01535 210320
Fax: 01535 210321
Email: sales@calmagltd.com
Web: www.calmagltd.com

1.4 Emergency telephone number

Tel. 01535 210320 (9.00am – 5.00pm Mon-Fri except Public Holidays)

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

Not classified as hazardous

2.2 Label elements

No labelling required

2.3 Other hazards

May cause irritation on prolonged exposure.

SECTION 3: Composition

3.1 Substances

Not applicable

3.2 Mixtures

An aqueous mixture of polyether, corrosion inhibitor and biocide.

Contains no components considered hazardous above thresholds of concern.

SECTION 4: First Aid Measures

4.1 Description of first aid measures

EYE CONTACT: Wash thoroughly with water for several minutes, holding the eyelids apart. Seek medical attention if irritation persists.
INHALATION: Remove from exposure. If breathing becomes difficult call a doctor.
SKIN CONTACT: Wash off with soap and water. Seek medical attention if irritation persists..
INGESTION: If swallowed, rinse mouth with water. Do NOT induce vomiting. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

EYES: Redness, mild irritation.
INHALATION: Cough, irritation.
SKIN: Redness, mild irritation.
INGESTION: Nausea, dizziness. Ingestion of large doses may result in symptoms of CNS depression.

4.3 Indication of any immediate medical attention and special treatments needed

Symptomatic treatment as required.

SECTION 5: Firefighting Measures

5.1 Extinguishing media

Not flammable. Use extinguishing media appropriate to surrounding conditions.

5.2 Special hazards arising from the substance or mixture

If involved in a fire, may release fumes of nitrogen and sulphur oxides.

Prevent entry of product and contaminated fire fighting water into streams and watercourses.

5.3 Advice for fire fighters
Fire fighters should wear protective clothing and breathing apparatus as appropriate.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective clothing including gloves and eye protection. Open doors and windows to ensure good ventilation.

6.2 Environmental precautions
Prevent entry into sewers and watercourses.

6.3 Methods and materials for containment and clearing up
Small spills (<1 litre) may be washed to foul drain with copious quantities of water. Do not wash into storm drains or watercourses.
Large spills (> 1 litre) should be covered with a suitable absorbent, e.g. sand, earth or spill granules and collected for disposal. Wash spill area thoroughly with water and detergent.

6.4 References to other sections
See section 8 and 13 for further advice.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Do not inhale vapours, mists or sprays.

7.2 Conditions for safe storage, including any incompatibilities
Keep containers tightly closed and in a cool, well ventilated area. Keep only in original container.

7.3 Specific end uses(s)
No special precautions.

SECTION 8. Exposure Controls/Personal Protection

8.1 Control parameters
No exposure limits available for the components of the mixture.

8.2 Exposure controls
None usually required during normal handling. Normal chemical handling procedures should be observed. Do not eat, drink or smoke when handling this product. Wash thoroughly after handling,

Respiratory protection
Not usually required. Use in well ventilated areas and avoid formation of spray or aerosols.

Hand Protection
Suitable chemical resistant gloves recommended for use with alkali materials. PVC or rubber may be suitable but glove manufacturer recommendations should always be checked. Change gloves in accordance with manufacturer recommendations. If gloves are damaged during use, remove immediately and wash hands before replacing with new gloves.

Eye protection
Safety glasses with side shields or goggles should be worn if there is a risk of splashing eyes.

Skin protection
Coveralls recommended. These should be changed after use or if contaminated. Wash before re-use.

Environmental exposure controls
Precautions should be taken to avoid accidental release to water courses.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Pale straw coloured liquid
Odour: Detergent type odour
Odour threshold: No data
pH: Alkaline
Melting point: Similar to water
Boiling point: Similar to water
Flashpoint: Not flammable
Evaporation rate: Similar to water
Flammability (solids/gases): Not applicable
Upper/lower flammability limits: Not flammable
Vapour pressure: Similar to water
Vapour density Similar to water
Specific gravity 1.027 +/-0.01@ 20°C
Solubility in water: Completely soluble in water
Solubility in other solvents: No data
Partition coefficient (log Kow) -No data
Autoignition temperature Not flammable
Decomposition temperature No data
Viscosity No data
Explosive properties Not classified as explosive
Oxidising properties Not classified as oxidising.

9.2 Other information

None

SECTION 10: Stability and Reactivity

10.1 Reactivity

Not considered to be reactive.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

May react vigorously with acids and oxidising agents.

10.4 Conditions to avoid

Excessive heat.

10.5 Incompatible materials

Acids, oxidising agents

10.6 Hazardous decomposition products

None expected under normal conditions of use.

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

This product has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

(a) acute toxicity Not expected to be acutely toxic. LD_{50} estimated > 2000 mg/kg.
(b) skin corrosion/irritation May be slightly irritating to the skin based on consideration of its components.

(c) serious eye damage/irritation May be slightly irritating to the eye based on consideration of its components.
(d) respiratory/skin sensitisation Contains no components known to be sensitising.
(e) germ cell mutagenicity Contains no components known to be germ cell mutagens.
(f) carcinogenicity Contains no components known to be carcinogens.
(g) reproductive toxicity Contains no components known to be reproductive toxins.
(h) STOT-single exposure Contains no components known to cause specific target organ toxicity.
(i) STOT-repeated exposure Contains no components known to cause specific target organ toxicity.
(j) aspiration hazard The product is not expected to be an aspiration hazard.

SECTION 12: Ecological Information

This product has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

12.1 Toxicity
Not expected to be toxic in the environment.

12.2 Persistence and degradability
The organic components are biodegradable and are not expected to persist in the environment.

12.3 Bioaccumulative potential
None of the components are considered to be bioaccumulative.

12.4 Mobility in soil
All components are readily soluble in water and if released into soil will be mobile in the environment.

12.5 Results of PBT and vPvB assessment
None of the components are known to be PBT or vPvB.

12.6 Other adverse effects
None known.

SECTION 13: Disposal Considerations

13.1 Waste treatment methods
Recover and recycle product if possible. If recovery and recycling are not possible incinerate or dispose of in accordance with local regulations.

Empty containers should be thoroughly rinsed with copious amounts of clean water. The rinse water can be used for makeup water for any necessary dilution of the concentrated product before use.

SECTION 14: Transport Information

Not classified as hazardous for transport.

14.1	UN Number	Not applicable
14.2	UN Proper shipping name	Not applicable
14.3	Transport hazard class(es)	Not applicable
14.4	Packing group	Not applicable
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 transported in bulk

SECTION 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
All components are listed as existing substances in Europe

15.2 Chemical Safety Assessment
A Chemical Safety Assessment has not been carried out for this product.

SECTION 16: Other Information

Revision information:
Updated to remove references to DS and DPD.

List of Abbreviations used in this SDS:
CAS Chemical Abstracts Service
CLP Classification, Labelling and Packaging Regulation (EC) no 1272/2008
DSD Dangerous Substances Directive 67/548/EEC
DPD Dangerous Preparations Directive 1999/45/EC
EC European Commnity/Commission
PBT Persistent, Bioaccumulative and Toxic
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) no 1907/2006
vPvB very Persistent, very Bioaccumulative

Statements used in Section 2 and/or 3
None

References:
Suppliers safety data sheet.
ECHA Classification and Labelling Inventory.

Method used for classification of mixtures:
Ingredient based approaches and expert judgment.

Training requirements for workers
No special training requirements.