

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Issue date: 08/01/2023 Revision date: 08/01/2023 Supersedes version of: 10/05/2022 Version: 3.3

SECTION 1: Identification of the substance/mixtu	ure and of the company/undertaking	
1.1. Product identifier		
Product form Product name Type of product	 Mixture MC1+ CENTRAL HEATING SYSTEM PROTECTOR Heating system water treatment 	
1.2. Relevant identified uses of the substan	ce or mixture and uses advised against	
 1.2.1. Relevant identified uses Use of the substance/mixture 1.2.2. Uses advised against 	: Corrosion inhibitor, Scale inhibitor	
No additional information available		
1.3. Details of the supplier of the safety dat	a sheet	
Supplier ADEY Innovation Ltd Unit 2, St Modwen Park Haresfield Stonehouse – Gloucestershire, GL10 3EZ United Kingdom T +44 (0)1242 546717 www.adey.com	Distributor ADEY Innovation SAS 119 bis, Rue de Colombes, Asnières sur Seine, 92600 France T +33 (0) 4 5018 3333 www.adey.com	
1.4. Emergency telephone number		
Emergency number	: +44 (0) 1242 5467000 (8:30 – 17:00) +44 (0)7909 967607 (outside office hours)	
SECTION 2: Hazards identification		
2.1. Classification of the substance or mixt	ure	
Classification according to Regulation (EC) No. 1272/2008 [CLP] Not classified		
Adverse physicochemical, human health and environmental effects No additional information available		
2.2. Label elements		
Labelling according to Regulation (EC) No. 1272/2008 [CLP]		
EUH-statements	: EUH208 - Contains BENZISOTHIAZOLINONE. May produce an allergic reaction. EUH210 - Safety data sheet available on request.	
2.3. Other hazards		
Other hazards which do not result in classification : None under normal conditions.		
Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII		
The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation		

(EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures			
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
BENZOTRIAZOLE	CAS-No.: 95-14-7 EC-No.: 202-394-1 REACH-no: 01-2119979079- 20	1 – 3	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Aquatic Chronic 2, H411
Propylene glycol substance with national workplace exposure limit(s) (GB)	CAS-No.: 57-55-6 EC-No.: 200-338-0 REACH-no: 01-2119456809- 23-XXXX	1 – 3	Not classified
1,2-benzisothiazol-3(2H)-one	CAS-No.: 2634-33-5 EC-No.: 220-120-9 EC Index-No.: 613-088-00-6 REACH-no: 01-2120761540- 60-XXXX	< 0.1	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

lame	Product identifier	Specific concentration limits
,2-benzisothiazol-3(2H)-one	CAS-No.: 2634-33-5 EC-No.: 220-120-9 EC Index-No.: 613-088-00-6 REACH-no: 01-2120761540- 60-XXXX	(0.05 ≤C ≤ 100) Skin Sens. 1, H317

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

SECTION 4: First aid measures	
4.1. Description of first aid measures	
First-aid measures general	: If medical advice is needed, have product container or label at hand.
First-aid measures after inhalation	 Remove person to fresh air and keep comfortable for breathing. Get medical attention if symptoms occur.
First-aid measures after skin contact	 Take off contaminated clothing. Wash skin with plenty of water. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Get medical advice/attention.
4.2. Most important symptoms and effect	cts, both acute and delayed
Symptoms/effects after inhalation	: In high concentrations, vapours may irritate throat and respiratory system and cause coughing.
Symptoms/effects after skin contact	: May cause an allergic skin reaction. irritation (itching, redness, blistering).
Symptoms/effects after eye contact	: May cause slight irritation.
Symptoms/effects after ingestion	: May cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

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

Treat symptomatically.

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SECTION 5: Firefighting measures	
5.1. Extinguishing media	
Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
5.2. Special hazards arising from the subst	tance or mixture
Fire hazard Explosion hazard Reactivity in case of fire Hazardous decomposition products in case of fire	 The product is not flammable. Product is not explosive. Not known. Toxic fumes may be released.
5.3. Advice for firefighters	
Precautionary measures fire Firefighting instructions Protection during firefighting Other information	 No special measures required. Use extinguishing media appropriate for surrounding fire. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. The product is not flammable.

SECTION 6: Accidental release measures	
6.1. Personal precautions, protective	equipment and emergency procedures
General measures	: Avoid release to the environment.
6.1.1. For non-emergency personnel	
Protective equipment	 Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Ventilate spillage area. Stop leak if safe to do so. Avoid contact with skin and eyes.
6.1.2. For emergency responders	
Protective equipment	 Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Ventilate area. Stop leak if safe to do so. Avoid contact with skin and eyes.
6.2. Environmental precautions	
Avoid release to the environment.	

6.3. Methods and material for containment and cleaning up	
For containment Methods for cleaning up	 Collect spillage. Take up liquid spill into absorbent material. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).
Other information	: Dispose of in accordance with relevant local regulations.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of solid materials or residues refer to section 13 : "Disposal considerations".

SECTION 7: Handling and storage	
7.1. Precautions for safe handling	
Precautions for safe handling	: Ensure adequate ventilation. Wear personal protective equipment. Avoid contact with skin and eyes.
Hygiene measures	: Always wash hands after handling the product. Do not eat, drink or smoke when using this product.
7.2. Conditions for safe storage, in	ncluding any incompatibilities
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep out of reach of children. Keep container closed when not in use.

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Incompatible materials	: Strong acids. Strong oxidizing agents.
Storage area	: Store in a well-ventilated place.
Special rules on packaging	: Keep only in original container.

7.3. Specific end use(s)

No special requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Propylene glycol (57-55-6)	
United Kingdom - Occupational Exposure Limits	
Local name	Propane-1,2-diol
WEL TWA (OEL TWA) [1]	10 mg/m³ particulates 474 mg/m³ total vapour and particulates
WEL TWA (OEL TWA) [2]	150 ppm total vapour and particulates
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

1,2-benzisothiazol-3(2H)-one (2634-33-5)			
DNEL/DMEL (Workers)			
Long-term - systemic effects, dermal	0.966 mg/kg bodyweight/day		
Long-term - systemic effects, inhalation	6.81 mg/m ³		
DNEL/DMEL (General population)	DNEL/DMEL (General population)		
Long-term - systemic effects, inhalation	1.2 mg/m ³		
Long-term - systemic effects, dermal	0.345 mg/kg bodyweight/day		
PNEC (Water)			
PNEC aqua (freshwater)	4.03 µg/l		
PNEC aqua (marine water)	0.403 µg/l		
PNEC aqua (intermittent, freshwater)	1.1 μg/l		
PNEC aqua (intermittent, marine water)	110 ng/l		
PNEC (Sediment)			
PNEC sediment (freshwater)	49.9 µg/kg dw		
PNEC sediment (marine water)	4.99 µg/kg dw		
PNEC (Soil)			
PNEC soil	3 mg/kg dwt		
PNEC (STP)			
PNEC sewage treatment plant	1.03 mg/l		

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BENZOTRIAZOLE (95-14-7)			
DNEL/DMEL (Workers)			
Long-term - systemic effects, dermal	0.24 mg/kg bodyweight/day		
Long-term - systemic effects, inhalation	4.2 mg/m³		
DNEL/DMEL (General population)	DNEL/DMEL (General population)		
Acute - systemic effects, oral	0.12 mg/kg bodyweight/day		
Long-term - systemic effects,oral	0.12 mg/kg bodyweight/day		
Long-term - systemic effects, inhalation	2.1 mg/m³		
Long-term - systemic effects, dermal	0.12 mg/kg bodyweight/day		
PNEC (Water)			
PNEC aqua (freshwater)	0.0194 mg/l		
PNEC aqua (marine water)	0.0194 mg/l		
PNEC aqua (intermittent, freshwater)	0.158 mg/l		
PNEC (Sediment)			
PNEC sediment (freshwater)	0.2204 mg/kg dwt		
PNEC sediment (marine water)	0.2204 mg/kg dwt		
PNEC (Soil)			
PNEC soil	0.03 mg/kg dwt		
PNEC (STP)			
PNEC sewage treatment plant	0.1 mg/l		

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure adequate ventilation.

8.2.2. Personal protection equipment

Personal protective equipment:

Gloves. Safety glasses.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses with side shields. The eye protection to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN 166.

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves. Chemical resistant gloves (according to European standard NF EN 374 or equivalent)

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8.2.2.3. Respiratory protection

Respiratory protection:

No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

Consumer exposure controls:

Observe the label precautions. Use as directed on label.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: light yellow. Yellow.
Odour	: slight.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not applicable
Explosive properties	: Product is not explosive.
Oxidising properties	: Oxidising liquids Not applicable.
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
рН	: 7.5 – 8.2
Viscosity, kinematic	: Not available
Solubility	: Miscible.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: 1.06 – 1.15
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

VOC content

: According to Swiss ordinance 814.018, we certify that the product mentioned above does not contain any Volatile Organic Compounds (VOC)

SECTION 10: Stability and reactivity

10.1. Reactivity

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

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10.2. Chemical stability			
Stable under normal conditions.			
10.3. Possibility of hazardous reactions			
No dangerous reactions known under normal conditions	s of use.		
10.4. Conditions to avoid			
None under recommended storage and handling condition	ions (see section 7).		
10.5. Incompatible materials			
Strong acids. Strong oxidizing agents.			
10.6. Hazardous decomposition products			
Under normal conditions of storage and use, hazardous	decomposition products should not be produced.		
,			
SECTION 11: Toxicological information			
11.1. Information on hazard classes as define	d in Regulation (EC) No 1272/2008		
	Not classified		
Acute toxicity (dermal)	Not classified		
• • •	Not classified		
1,2-benzisothiazol-3(2H)-one (2634-33-5)			
LD50 oral	1020 mg/kg bodyweight		
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)		
LD50 dermal	4115 mg/kg bodyweight		
LC50 Inhalation - Rat	100 mg/l		
LC50 Inhalation - Rat (Dust/Mist)	100 mg/l		
BENZOTRIAZOLE (95-14-7)			
LD50 oral	560 mg/kg bodyweight		
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)		
LD50 dermal	> 2000 mg/kg bodyweight		
LC50 Inhalation - Rat (Dust/Mist)	1910 mg/l		
Propylene glycol (57-55-6)			
LD50 oral rat	22000 mg/kg bodyweight Animal: rat, Remarks on results: other:		
LD50 dermal rabbit	> 2000 mg/kg bodyweight Animal: rabbit		
LC50 Inhalation - Rat	> 44.9 mg/l air Animal: rat, Guideline: other:, Remarks on results: other:		
Skin corrosion/irritation :	Not classified pH: 7.5 – 8.2		
Serious eye damage/irritation :	Not classified pH: 7.5 – 8.2		
Respiratory or skin sensitisation :	Not classified		
	Not classified		
	Not classified		
	Not classified		

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1,2-benzisothiazol-3(2H)-one (2634-33-5)	
NOAEL (animal/female, F1)	56.6 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: EPA OPPTS 870.3800 (Reproduction and Fertility Effects)
STOT-single exposure	Not classified
STOT-repeated exposure	: Not classified
Propylene glycol (57-55-6)	
NOAEL (subchronic, oral, animal/male, 90 days)	443 mg/kg bodyweight Animal: cat, Animal sex: male
Aspiration hazard	: Not classified
11.2. Information on other hazards	

No additional information available

SECTION 12: Ecological information	
12.1. Toxicity	
Ecology - general : Ecology - water : Hazardous to the aquatic environment, short–term : (acute) Hazardous to the aquatic environment, long–term : (chronic)	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment. The product does not have any known adverse effect on the tested aquatic organisms. Not classified Not classified
1,2-benzisothiazol-3(2H)-one (2634-33-5)	
LC50 - Fish [1]	2.18 mg/l
LC50 - Fish [2]	2.15 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	2.94 mg/l Test organisms (species): Daphnia magna
EC50 - Crustacea [2]	2.9 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	2.94 mg/l waterflea
EC50 - Other aquatic organisms [2]	0.11 mg/l
BENZOTRIAZOLE (95-14-7)	
LC50 - Fish [1]	55 mg/l Test organisms (species): Cyprinodon variegatus
LC50 - Fish [2]	180 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	137 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	91 mg/l waterflea
EC50 - Other aquatic organisms [2]	231 mg/l
EC50 72h - Algae [1]	75 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	29 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC chronic crustacea	0.97 mg/l
Propylene glycol (57-55-6)	
LC50 - Fish [1]	51600 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
LC50 - Fish [2]	51400 mg/l Test organisms (species): Pimephales promelas

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Propylene glycol (57-55-6)			
EC50 72h - Algae [1]	24200 mg/l Test organisms (spe Raphidocelis subcapitata, Seler		bcapitata (previous names:
EC50 72h - Algae [2]	19300 mg/l Test organisms (species): Skeletonema costatum		
EC50 96h - Algae [1]	19000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names Raphidocelis subcapitata, Selenastrum capricornutum)		
EC50 96h - Algae [2]	19100 mg/l Test organisms (spe	ecies): Skeletonema costatum	
12.2. Persistence and degradability			
MC1+ CENTRAL HEATING SYSTEM PROTEC	FOR		
Persistence and degradability	No data available.		
12.3. Bioaccumulative potential			
MC1+ CENTRAL HEATING SYSTEM PROTEC	FOR		
Bioaccumulative potential	No data available.		
1,2-benzisothiazol-3(2H)-one (2634-33-5)	<u> </u>		
Partition coefficient n-octanol/water (Log Pow)	1.3		
BENZOTRIAZOLE (95-14-7)			
Partition coefficient n-octanol/water (Log Pow)	1.34		
12.4. Mobility in soil			
MC1+ CENTRAL HEATING SYSTEM PROTECT	FOR		
Ecology - soil	Miscible with water.		
12.5. Results of PBT and vPvB assessment			
No additional information available			
12.6. Endocrine disrupting properties			
No additional information available			
12.7. Other adverse effects			
Other adverse effects : Additional information :	None known No other effects known		
SECTION 13: Disposal considerations			
13.1. Waste treatment methods			
Waste treatment methods :	Disposal must be done according Dispose of contents/container in Dispose in a safe manner in acco	accordance with licensed coll	-
SECTION 14: Transport information			
ADR IMDG	ΙΔΤΔ		RID

ADR	IMDG IATA ADN		RID	
14.1. UN number or ID number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

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ADR	IMDG	ΙΑΤΑ	ADN	RID
14.2. UN proper shipping	g 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 haz	ards			
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary informatio	n 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. 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

15.1.1. EU-Regulations

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

Contains no substance(s) listed on the REACH Candidate List

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors) VOC content : According to Swiss ordinance 814.018, we certify that the product mentioned above does

not contain any Volatile Organic Compounds (VOC)

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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SECTION 16: Other information				
Indication of changes	Indication of changes			
Section Changed item Change Comments				
	Issue date	Added		
	Supersedes version of	Modified		
	Revision date	Modified		
2.2	EUH-statements	Modified		
3	Composition/information on ingredients	Modified		
6.3	Other information	Modified		

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	
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2	
EUH208	Contains BENZISOTHIAZOLINONE. May produce an allergic reaction.	
EUH210	Safety data sheet available on request.	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2	
H302	Harmful if swallowed.	
H315	Causes skin irritation.	
H317	May cause an allergic skin reaction.	
H318	Causes serious eye damage.	
H319	Causes serious eye irritation.	
H400	Very toxic to aquatic life.	
H411	Toxic to aquatic life with long lasting effects.	
Skin Irrit. 2	Skin corrosion/irritation, Category 2	
Skin Sens. 1	Skin sensitisation, Category 1	

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