

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Product name : DUAL BIOCIDES
UFI : XWQG-408Y-S00X-EA6V
Type of product : Heating system water treatment

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Use of the substance/mixture : Water treatment additive.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet**Supplier**

BSS Group Ltd
Lodge Way House, Lodge Way, Harlestone Road
NN5 7UG Northampton – Northamptonshire
United Kingdom
T +44 (0)116 245 5500

Distributor

BSS Group Ltd
Duncrue Industrial Estate
36 - 38 Duncrue Road
BT3 9BP Belfast
T +44 (0) 116 245 5500

1.4. Emergency telephone number

Emergency number : +44 (0)116 245 5500 (8:30 – 5pm)

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Skin corrosion/irritation, Category 2 H315

Serious eye damage/eye irritation, Category 2 H319

Skin sensitisation, Category 1 H317

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

Adverse physicochemical, human health and environmental effects

Causes mild skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful to aquatic life with long lasting effects.

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS07

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Signal word (CLP)	: Warning
Contains	: Reaction mass of: 5-chloro-2-methyl-4-iso-thiazolin-3-one[EC no.247-5007] and 2-methyl-2H-isothiazol-3-one [EC no.220-239-6]
Hazard statements (CLP)	: H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation.
Precautionary statements (CLP)	: P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P264 - Wash hands thoroughly after handling. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P321 - Specific treatment (see supplemental first aid instruction on this label). P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

Other hazards which do not result in classification : None under normal conditions.

Contains no PBT/vPvB substances $\geq 0.1\%$ 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

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-Bronopol	CAS-No.: 52-51-7 EC-No.: 200-143-0 EC Index-No.: 603-085-00-8	$\geq 1 - < 3$	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400
Reaction mass of: 5-chloro-2-methyl-4-iso-thiazolin-3-one[EC no.247-5007] and 2-methyl-2H-isothiazol-3-one [EC no.220-239-6]	CAS-No.: 55965-84-9 EC-No.: 611-341-5 EC Index-No.: 613-167-00-5	$\geq 0.1 - < 1$	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Reaction mass of: 5-chloro-2-methyl-4-iso-thiazolin-3-one[EC no.247-5007] and 2-methyl-2H-isothiazol-3-one [EC no.220-239-6]	CAS-No.: 55965-84-9 EC-No.: 611-341-5 EC Index-No.: 613-167-00-5	(0.0015 \leq C < 100) Skin Sens. 1, H317 (0.06 \leq C < 0.6) Eye Irrit. 2, H319 (0.06 \leq C < 0.6) Skin Irrit. 2, H315 (0.6 \leq C < 100) Skin Corr. 1B, H314

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

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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. If large quantities are ingested, seek medical advice/attention.

4.2. Most important symptoms and effects, 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	: Causes skin irritation. May cause an allergic skin reaction. irritation (itching, redness, blistering).
Symptoms/effects after eye contact	: Causes serious eye irritation. redness, itching, tears.
Symptoms/effects after ingestion	: Ingestion is not considered a potential route of exposure. May cause a light 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	: Use extinguishing media appropriate for surrounding fire.
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5.2. Special hazards arising from the substance or mixture

Fire hazard	: The product is not flammable.
Explosion hazard	: Product is not explosive.
Reactivity in case of fire	: Not known.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire	: No special measures required.
Firefighting instructions	: Use extinguishing media appropriate for surrounding fire.
Protection during firefighting	: 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

General measures	: Avoid release to the environment.
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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.

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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	: 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. This material and its container must be disposed of as hazardous waste.

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, including 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.
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

No additional information available

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

No additional information available

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.

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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)

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
	Butyl rubber, Polyvinylchloride (PVC)				

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	: Colourless.
Odour	: Mild.
Odour threshold	: Not available
Melting point	: 150 °C Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not applicable
Explosive properties	: Product is not explosive.
Oxidising properties	: Non oxidizing material according to EC criteria.
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: Not available
Auto-ignition temperature	: Not available

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Decomposition temperature	: Not available
pH	: 4 – 5
Viscosity, kinematic	: Not available
Solubility	: Soluble.
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	: 1.01
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

Miscibility	:
VOC content	: 20 % (w/w)

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

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

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 defined in Regulation (EC) No 1272/2008

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

2-Bronopol (52-51-7)

LD50 oral	180 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other:
LD50 dermal	1600 mg/kg bodyweight
LC50 Inhalation - Rat (Dust/Mist)	> 5000 mg/l

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Reaction mass of: 5-chloro-2-methyl-4-iso-thiazolin-3-one [EC no.247-5007] and 2-methyl-2H-isothiazol-3-one [EC no.220-239-6] (55965-84-9)

LD50 oral	59 mg/kg bodyweight
LD50 dermal rat	> 1008 mg/kg bodyweight Animal: rat, Guideline: EPA OPP 81-2 (Acute Dermal Toxicity), Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal	> 75 mg/kg bodyweight

Skin corrosion/irritation	: Causes skin irritation. pH: 4 – 5
Serious eye damage/irritation	: Causes serious eye irritation. pH: 4 – 5
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

2-Bronopol (52-51-7)

STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified

Reaction mass of: 5-chloro-2-methyl-4-iso-thiazolin-3-one [EC no.247-5007] and 2-methyl-2H-isothiazol-3-one [EC no.220-239-6] (55965-84-9)

LOAEL (dermal, rat/rabbit, 90 days)	0.525 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: EPA OPP 82-3 (Subchronic Dermal Toxicity 90 Days)
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Aspiration hazard	: Not classified
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11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Harmful to aquatic life with long lasting effects.
Ecology - water	: Harmful to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

2-Bronopol (52-51-7)

LC50 - Fish [1]	26.4 mg/l
EC50 - Crustacea [1]	1.4 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	1.4 mg/l waterflea
EC50 - Other aquatic organisms [2]	0.4 mg/l
EC50 72h - Algae [1]	0.25 mg/l Test organisms (species): Skeletonema costatum
EC50 72h - Algae [2]	0.37 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
LOEC (chronic)	0.88 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	0.27 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	21.5 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '49 d'

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Reaction mass of: 5-chloro-2-methyl-4-iso-thiazolin-3-one [EC no.247-5007] and 2-methyl-2H-isothiazol-3-one [EC no.220-239-6] (55965-84-9)

LC50 - Fish [1]	0.19 mg/l
LC50 - Fish [2]	0.28 mg/l Test organisms (species): Lepomis macrochirus
EC50 - Crustacea [1]	0.16 mg/l Test organisms (species): Daphnia magna
EC50 - Other aquatic organisms [1]	0.126 mg/l waterflea
EC50 - Other aquatic organisms [2]	0.003 mg/l
NOEC (chronic)	0.1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	0.098 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '28 d'

12.2. Persistence and degradability

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Persistence and degradability	Biodegradable.
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12.3. Bioaccumulative potential

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Bioaccumulative potential	No bioaccumulation.
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2-Bronopol (52-51-7)

Partition coefficient n-octanol/water (Log Pow)	0.18
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Reaction mass of: 5-chloro-2-methyl-4-iso-thiazolin-3-one [EC no.247-5007] and 2-methyl-2H-isothiazol-3-one [EC no.220-239-6] (55965-84-9)

Partition coefficient n-octanol/water (Log Pow)	0.4
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12.4. Mobility in soil

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Ecology - soil	Soluble in water. Adsorbs into the soil.
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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	: None known
Additional information	: No other effects known

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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SECTION 14: Transport information

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID 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. 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 : 20 % (w/w)

Contains no 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

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

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), 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
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H312	Harmful 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.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

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.