TRISTEL DUO ULT ACTIVATOR SOLUTION

Safety Data Sheet

according to the United Nations GHS (Rev. 10, 2023)
Issue date: 22/05/2025 Revision date: 22/05/2025 Version: 1.0

SECTION 1: Identification

1.1. GHS Product identifier

Product form : Mixture
Product name : TRISTEL DUO ULT ACTIVATOR SOLUTION

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Restrictions on use : Uses other than the intended use of the product.

1.4. Supplier's details

Manufacturer
Tristel Solutions Limited
Unit 1B Lynx Business Park,
Fordham Road, Newmarket
Cambridgeshire
CB8 7NY United Kingdom
T +44 (0) 1638 721500

1.5. Emergency phone number

Emergency number : 800-424 (toll-free)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Not classified

2.2. GHS Label elements, including precautionary statements

Labelling according to the United Nations GHS

No labelling applicable

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
1-DECANAMINE,N,N-DIMETHYL-N-OXIDE	CAS-No.: 2605-79-0	< 1	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

Name	Product identifier	%	Classification according to the United Nations GHS
SODIUM CHLORITE 100%	CAS-No.: 7758-19-2	< 1	Ox. Sol. 1, H271 Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Dermal), H310 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 3, H412

Full text of H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : If you feel unwell, seek medical advice.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : May cause moderate irritation.

Symptoms/effects after eye contact : May cause slight irritation.

Symptoms/effects after ingestion : May cause irritation to the digestive tract.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

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

5.3. Special protective actions for fire-fighters

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

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
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

Storage conditions : Store in a well-ventilated place. Keep cool.
Incompatible materials : Heat sources.
Storage temperature : 10 – 35 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment:
Wear recommended personal protective equipment.

Hand protection : Protective gloves
Eye protection : Avoid contact with eyes.
Skin and body protection : Wear suitable protective clothing
Respiratory protection : Ensure there is sufficient ventilation of the area during use.

Personal protective equipment symbol(s)

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state : Liquid
Colour : Colourless.
Odour : odourless.
Odour threshold : Not available
Melting point : Not available

Freezing point	:	Not available
Boiling point	:	100 °C
Flammability	:	Non flammable.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	> 93 °C
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	10.3 – 11.3
pH solution	:	Not available
Viscosity, kinematic (calculated value) (40 °C)	:	Not available
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 – 1.01
Relative vapour density at 20°C	:	Not available
Solubility	:	Not available
Particle size	:	Not applicable

9.2. Data relevant with regard to physical hazard classes (supplemental)

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

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

No additional information available

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 toxicological effects

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

1-DECANAMINE,N,N-DIMETHYL-N-OXIDE (2605-79-0)	
LD50 oral rat	300 – 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LD50 oral	300 – 2000 mg/kg

1-DECANAMINE,N,N-DIMETHYL-N-OXIDE (2605-79-0)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Skin corrosion/irritation : Not classified
pH: 10.3 – 11.3

Serious eye damage/irritation : Not classified
pH: 10.3 – 11.3

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

SODIUM CHLORITE 100% (7758-19-2)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

SODIUM CHLORITE 100% (7758-19-2)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

1-DECANAMINE,N,N-DIMETHYL-N-OXIDE (2605-79-0)	
NOAEL (oral, rat, 90 days)	40 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

SODIUM CHLORITE 100% (7758-19-2)	
LC50 - Fish [1]	265 – 310 mg/l
EC50 - Other aquatic organisms [1]	0.29 mg/l

12.2. Persistence and degradability

TRISTEL DUO ULT ACTIVATOR SOLUTION	
Persistence and degradability	Biodegradability in water: no data available.

SODIUM CHLORITE 100% (7758-19-2)	
Persistence and degradability	Biodegradability in water: no data available.

1-DECANAMINE,N,N-DIMETHYL-N-OXIDE (2605-79-0)	
Persistence and degradability	Rapidly degradable
Biodegradation	97 %

12.3. Bioaccumulative potential

TRISTEL DUO ULT ACTIVATOR SOLUTION	
Bioaccumulative potential	No additional information available

12.4. Mobility in soil

TRISTEL DUO ULT ACTIVATOR SOLUTION	
Mobility in soil	No additional information available

12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with UN RTDG / IMDG / IATA

UN RTDG	IMDG	IATA
14.1. UN number		
Not applicable	Not applicable	Not applicable
14.2. UN Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Not applicable	Not applicable	Not applicable
No supplementary information available		

14.6. Special precautions for user

UN RTDG
Not applicable

IMDG
Not applicable

IATA
Not applicable

14.7. Transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

SECTION 16: Other information

Issue date : 22/05/2025

Revision date : 22/05/2025

Full text of H-statements:	
Acute Tox. 2 (Dermal)	Acute toxicity (dermal), Category 2
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 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Ox. Sol. 1	Oxidising Solids, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
H271	May cause fire or explosion; strong oxidiser
H301	Toxic if swallowed
H302	Harmful if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

Safety Data Sheet (SDS), UN

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.

TRISTEL DUO ULT BASE SOLUTION

Safety Data Sheet

according to the United Nations GHS (Rev. 10, 2023)
Issue date: 22/05/2025 Revision date: 22/05/2025 Version: 1.0

SECTION 1: Identification

1.1. GHS Product identifier

Product form : Mixture
Product name : TRISTEL DUO ULT BASE SOLUTION

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Restrictions on use : Uses other than the intended use of the product.

1.4. Supplier's details

Manufacturer
Tristel Solutions Limited
Unit 1B Lynx Business Park,
Fordham Road, Newmarket
Cambridgeshire
CB8 7NY United Kingdom
T +44 (0) 1638 721500

1.5. Emergency phone number

Emergency number : 800-424 (toll-free)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Serious eye damage/eye irritation, Category 2 H319
Full text of H-statements: see section 16

2.2. GHS Label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS UN) :

Signal word (GHS UN) : Warning
Hazard statements (GHS UN) : H319 - Causes serious eye irritation
Precautionary statements (GHS UN) : P280 - Wear eye protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P317 - If eye irritation persists: Get medical help.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
CITRIC ACID MONOHYDRATE	CAS-No.: 5949-29-1	1 – 10	Eye Irrit. 2, H319 STOT SE 3, H335
1-DECANAMINE,N,N-DIMETHYL-N-OXIDE	CAS-No.: 2605-79-0	1 – 5	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

Full text of H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : If you feel unwell, seek medical advice.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : May cause moderate irritation.
Symptoms/effects after eye contact : Causes eye irritation.
Symptoms/effects after ingestion : May cause irritation to the digestive tract.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

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

5.3. Special protective actions for fire-fighters

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

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up	:	Take up liquid spill into absorbent material.
Other information	:	Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Ensure good ventilation of the work station. Wear personal protective equipment.
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

Storage conditions	:	Store in a well-ventilated place. Keep cool.
Storage temperature	:	10 – 35 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Ensure good ventilation of the work station.
Environmental exposure controls	:	Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment:
Wear recommended personal protective equipment.

Hand protection	:	Avoid contact with skin.
Eye protection	:	Safety glasses
Skin and body protection	:	Wear suitable protective clothing
Respiratory protection	:	Ensure there is sufficient ventilation of the area during use.

Personal protective equipment symbol(s)

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid
Colour	:	Blue.
Odour	:	Not available
Odour threshold	:	Not available
Melting point	:	

Freezing point	:	Not available
Boiling point	:	Not available
Flammability	:	Non flammable.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	Not available
Auto-ignition temperature	:	
Decomposition temperature	:	Not available
pH	:	2 – 3
pH solution	:	Not available
Viscosity, kinematic (calculated value) (40 °C)	:	Not available
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	:	1.02 – 1.03
Relative vapour density at 20°C	:	
Solubility	:	Not available
Particle size	:	Not applicable

9.2. Data relevant with regard to physical hazard classes (supplemental)

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

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

No additional information available

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 toxicological effects

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

CITRIC ACID MONOHYDRATE (5949-29-1)	
LD50 oral rat	11700 mg/kg
LD50 dermal rat	> 2000 mg/kg

1-DECANAMINE,N,N-DIMETHYL-N-OXIDE (2605-79-0)	
LD50 oral rat	300 – 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LD50 oral	300 – 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Skin corrosion/irritation : Not classified
pH: 2 – 3

Serious eye damage/irritation : Causes serious eye irritation.
pH: 2 – 3

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

CITRIC ACID MONOHYDRATE (5949-29-1)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

1-DECANAMINE,N,N-DIMETHYL-N-OXIDE (2605-79-0)	
NOAEL (oral, rat, 90 days)	40 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life.

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

CITRIC ACID MONOHYDRATE (5949-29-1)	
LC50 - Fish [1]	440 – 706 mg/l

12.2. Persistence and degradability

TRISTEL DUO ULT BASE SOLUTION	
Persistence and degradability	Biodegradability in water: no data available.

CITRIC ACID MONOHYDRATE (5949-29-1)	
Persistence and degradability	Rapidly degradable
Biodegradation	97 %

1-DECANAMINE,N,N-DIMETHYL-N-OXIDE (2605-79-0)	
Persistence and degradability	Rapidly degradable
Biodegradation	97 %

12.3. Bioaccumulative potential

TRISTEL DUO ULT BASE SOLUTION	
Bioaccumulative potential	No additional information available

12.4. Mobility in soil

TRISTEL DUO ULT BASE SOLUTION	
Mobility in soil	No additional information available

12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with UN RTDG / IMDG / IATA

UN RTDG	IMDG	IATA
14.1. UN number		
Not applicable	Not applicable	Not applicable
14.2. UN Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Not applicable	Not applicable	Not applicable
No supplementary information available		

14.6. Special precautions for user

UN RTDG
Not applicable

IMDG
Not applicable

IATA
Not applicable

14.7. Transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

SECTION 16: Other information

Issue date : 22/05/2025

Revision date : 22/05/2025

Full text of H-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
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H302	Harmful if swallowed
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

Safety Data Sheet (SDS), UN

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.

TRISTEL DUO ULT WORKING SOLUTION

Safety Data Sheet

according to the United Nations GHS (Rev. 10, 2023)
Issue date: 22/05/2025 Revision date: 22/05/2025 Version: 1.0

SECTION 1: Identification

1.1. GHS Product identifier

Product form : Mixture
Product name : TRISTEL DUO ULT WORKING SOLUTION

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Disinfectant
Restrictions on use : Uses other than the intended use of the product.

1.4. Supplier's details

Manufacturer
Tristel Solutions Limited
Unit 1B Lynx Business Park,
Fordham Road, Newmarket
Cambridgeshire
CB8 7NY United Kingdom
T +44 (0) 1638 721500

1.5. Emergency phone number

Emergency number : 800-424 (toll-free)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Not classified
Adverse physicochemical, human health and environmental effects : To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice

2.2. GHS Label elements, including precautionary statements

Labelling according to the United Nations GHS

No labelling applicable

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
chlorine dioxide … %	CAS-No.: 10049-04-4	< 1	Acute Tox. 3 (Oral), H301 Skin Corr. 1B, H314 Aquatic Acute 1, H400

Full text of H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : If you feel unwell, seek medical advice.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : May cause moderate irritation.
Symptoms/effects after eye contact : May cause slight irritation.
Symptoms/effects after ingestion : May cause irritation to the digestive tract.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

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

5.3. Special protective actions for fire-fighters

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

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
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".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Ensure good ventilation of the work station. Wear personal protective equipment.
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

Storage conditions	:	Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Ensure good ventilation of the work station.
Environmental exposure controls	:	Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment:
Wear recommended personal protective equipment.

Hand protection	:	Avoid contact with skin.
Eye protection	:	Avoid contact with eyes.
Skin and body protection	:	Wear suitable protective clothing
Respiratory protection	:	In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s)

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Yellow.
Odour	:	characteristic.
Odour threshold	:	Not available
Melting point	:	Not applicable
Freezing point	:	Not available
Boiling point	:	100 °C
Flammability	:	Non flammable.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	> 93 °C
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	Not available
pH solution	:	Not available
Viscosity, kinematic (calculated value) (40 °C)	:	Not available

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	:	Not available
Relative vapour density at 20°C	:	Not available
Solubility	:	Not available
Particle size	:	Not applicable

9.2. Data relevant with regard to physical hazard classes (supplemental)

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

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

No additional information available

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 toxicological effects

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

chlorine dioxide … % (10049-04-4)	
LD50 oral rat	93.86 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Guideline: EU Method B.1 (Acute Toxicity (Oral)), Remarks on results: other:, 95% CL: 45,52 - 193,53
LC50 Inhalation - Rat (Vapours)	0.041 mg/l Source: ECHA

Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitization	:	Not classified
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

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

chlorine dioxide … % (10049-04-4)	
LC50 - Fish [1]	75 mg/l Test organisms (species): Cyprinodon variegatus
LC50 - Fish [2]	0.021 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	0.063 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	1096 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	0.324 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	≥ 500 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	≥ 500 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '36 d'

12.2. Persistence and degradability

TRISTEL DUO ULT WORKING SOLUTION	
Persistence and degradability	Biodegradability in water: no data available.

chlorine dioxide … % (10049-04-4)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

TRISTEL DUO ULT WORKING SOLUTION	
Bioaccumulative potential	No additional information available

12.4. Mobility in soil

TRISTEL DUO ULT WORKING SOLUTION	
Mobility in soil	No additional information available

12.5. Other adverse effects

Ozone : Not classified

Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.

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

Sewage disposal recommendations : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Disposal must be done according to official regulations.

Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with UN RTDG / IMDG / IATA

UN RTDG	IMDG	IATA
14.1. UN number		
Not applicable	Not applicable	Not applicable
14.2. UN Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Not applicable	Not applicable	Not applicable
No supplementary information available		

14.6. Special precautions for user

UN RTDG
Not applicable

IMDG
Not applicable

IATA
Not applicable

14.7. Transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

SECTION 16: Other information

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Full text of H-statements:	
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
H301	Toxic if swallowed
H314	Causes severe skin burns and eye damage
H400	Very toxic to aquatic life

Safety Data Sheet (SDS), UN

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.