Vital Oxide RTU

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

1.1 Product identifier

Trade name

Vital Oxide RTU

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

Relevant identified uses of the substance or mixture
Disinfectants for veterinary hygiene, food and feed area

Uses advised against
Disinfectant not for direct use on humans and animals

1.3 Details of the supplier of the safety data sheet

Address
Tiarco Chemical Europe GmbH
Am Gut Baarking 12
46395 Bocholt

Telephone no. +49 2871 23476-0
Fax no. +49 2871 23476-44
e-mail europeansales@trcc.com

Advice on Safety Data Sheet
sdb_info@umco.de

1.4 Emergency telephone number

For medical advice (in German and English):
+49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification information
This product does not meet the classification and labelling criteria given in the Regulation (EC) No 1272/2008 (CLP).

2.2 Label elements

Not relevant

2.3 Other hazards

No data available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable. The product is not a substance.

3.2 Mixtures

Hazardous ingredients

No	Substance name		Additional information	
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)	Concentration	%
1	**sodium-chlorite**			
	7758-19-2 231-836-6 - 01-2119529240-51	Ox. Sol. 1; H271 Acute Tox. 3; H301 Acute Tox. 2; H310 Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 3; H412 EUH032 EUH071	< 0.50	wt%
2	**Quaternary ammonium compounds, C12-14-alkyl[(ethylphenyl)methyl]dimethyl, chlorides**			

	85409-23-0 287-090-7 - -	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400	< 0.50	wt%
3	**Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides**			
	68391-01-5 269-919-4 - -	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400	< 0.50	wt%

Full Text for all H-phrases and EUH-phrases: pls. see section 16

No	Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
2	-	-	M = 10	-

Acute toxicity estimate (ATE) values			
No	**oral**	**dermal**	**inhalative**
1	284 mg/kg bodyweight	134 mg/kg bodyweight	

3.3 Other information

Sodium chlorite is the precursor of the biocidal active substance chlorine dioxide generated from sodium chlorite by oxidation. This mixture is in compliance with Regulation (EC) 528/2012 and Regulation (EC) 1907/2006.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing.

After inhalation
Remove to fresh air, keep patient warm and at rest. In case of persisting adverse effects consult a physician.

After skin contact
In case of contact with skin wash off with water. Get medical attention if pain still persists.

After eye contact
Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Get medical attention if pain still persists.

After ingestion
Rinse the mouth thoroughly with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

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
recommended: alcohol resistant foam, CO2, powders, water spray/mist; Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.

Unsuitable extinguishing media
No data available.

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: chlorine dioxide; Chlorine (Cl2)

5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear full protective suit. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Refer to protective measures listed in sections 7 and 8. Avoid contact with skin, eyes and clothing.

For emergency responders
No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g., sand, kieselguhr, acid binder, universal binder, sawdust). When collected, handle material as described under the section heading "Disposal considerations".

6.4 Reference to other sections

Information regarding safe handling, see section 7. Information regarding personal protective measures, see section 8. Information regarding waste disposal, see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Provide good ventilation at the work area (local exhaust ventilation, if necessary).

General protective and hygiene measures
Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Avoid contact with eyes and skin. Wash soiled clothing immediately. Provide eye wash fountain in work area. Have emergency shower available.

Advice on protection against fire and explosion
Pay attention to general rules of internal fire prevention. Keep away from sources of heat and ignition. Take precautionary measures against static charges.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions
Keep container tightly closed and dry in a cool, well-ventilated place. Keep from freezing. Protect from direct sunlight.

Recommended storage temperature
Value < 48 °C

Requirements for storage rooms and vessels
Containers which are opened must be carefully resealed and kept upright to prevent leakage. Always keep in containers of same material as the original.

Incompatible products
Do not store together with: Acids

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

DNEL, DMEL and PNEC values

DNEL values (worker)

No	Substance name			CAS / EC no	
	Route of exposure	Exposure time	Effect	Value	
1	**sodium-chlorite**			**7758-19-2** **231-836-6**	
	dermal	Long term (chronic)	systemic	0.8	mg/kg/day
	dermal	Short term (acut)	systemic	0.8	mg/kg/day
	inhalative	Long term (chronic)	systemic	0.28	mg/m³
	inhalative	Short term (acut)	systemic	0.28	mg/m³

DNEL value (consumer)

No	Substance name			CAS / EC no
	Route of exposure	Exposure time	Effect	Value

1	**sodium-chlorite**			**7758-19-2 231-836-6**	
	oral	Long term (chronic)	systemic	0.04	mg/kg/day
	oral	Short term (acut)	systemic	0.04	mg/kg/day
	dermal	Long term (chronic)	systemic	0.4	mg/kg/day
	dermal	Short term (acut)	systemic	0.4	mg/kg/day
	inhalative	Long term (chronic)	systemic	0.07	mg/m³
	inhalative	Short term (acut)	systemic	0.07	mg/m³

PNEC values

No	Substance name		CAS / EC no	
	ecological compartment	**Type**	**Value**	
1	**sodium-chlorite**		**7758-19-2 231-836-6**	
	water	fresh water	0.65	µg/L
	water	marine water	0.065	µg/L
	sewage treatment plant	-	1	mg/L

8.2 Exposure controls

Appropriate engineering controls
Provide adequate ventilation. This should be achieved by the use of local exhaust ventilation and good general extraction.

Personal protective equipment

Respiratory protection
If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol, vapour and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

Eye / face protection
Safety glasses with side protection shield (EN 166)

Hand protection
In case of intensive contact, wear protective gloves (EN 374). Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Other
Normal chemical work clothing.

Environmental exposure controls
Avoid release into sewage and environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

State of aggregation
liquid

Form
Liquid

Colour
colourless

Odour
mild

pH value		
Value	8 - 9	

Boiling point / boiling range		
Value	100	°C

Melting point/freezing point
no data available

Setting point / solidification range

Value	0 °C

Decomposition temperature
No data available

Flash point
Not applicable

Ignition temperature
No data available

Flammability
No data available

Lower explosion limit
No data available

Upper explosion limit
No data available

Vapour pressure
No data available

Relative vapour density
No data available

Relative density	
Value	1.003
Reference temperature	20 °C

Density
No data available

Solubility in water	
Comments	soluble

Solubility
No data available

Partition coefficient n-octanol/water (log value)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**sodium-chlorite**	**7758-19-2**	**231-836-6**
log Pow	<	-2.7	
Reference temperature		25	°C
Method	OECD 107		
Source	ECHA		

Kinematic viscosity
No data available

Particle characteristics
No data available

9.2 Other information

Other information
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions

Contact with acids releases toxic gas. Dangerous reactions are not to be expected when handling product according to its intended use.

10.4 Conditions to avoid

Protect from sun. Keep from freezing. Contact with incompatible substances

10.5 Incompatible materials

10.6 Hazardous decomposition products

None if stored, handled and transported properly. Chlorine; Chlorine dioxide

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity (result of the ATE calculation for the mixture)	
No	**Product Name**
1	**Vital Oxide RTU**
Comments	The result of the applied calculation method according to the European Regulation (EC) 1272/2008 (CLP), Paragraph 3.1.3.6, Part 3 of Annex I is outside the values that imply a classification / labelling of this mixture according to table 3.1.1 defining the respective categories (ATE oral > 2000 mg/kg).

Acute oral toxicity			
No	**Substance name**	**CAS no.**	**EC no.**
1	**sodium-chlorite**	**7758-19-2**	**231-836-6**
LD50	284	mg/kg bodyweight	
Species	rat		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are met.		

Acute dermal toxicity (result of the ATE calculation for the mixture)	
No	**Product Name**
1	**Vital Oxide RTU**
Comments	The result of the applied calculation method according to the European Regulation (EC) 1272/2008 (CLP), Paragraph 3.1.3.6, Part 3 of Annex I is outside the values that imply a classification / labelling of this mixture according to table 3.1.1 defining the respective categories (ATE dermal > 2000 mg/kg).

Acute dermal toxicity			
No	**Substance name**	**CAS no.**	**EC no.**
1	**sodium-chlorite**	**7758-19-2**	**231-836-6**
LD50	134	mg/kg bodyweight	
Species	rabbit		
Method	EPA OPP 81-2		
Source	ECHA		
Evaluation/classification	Based on available data, the classification criteria are met.		

Acute inhalational toxicity
No data available

Skin corrosion/irritation			
No	**Substance name**	**CAS no.**	**EC no.**
1	**sodium-chlorite**	**7758-19-2**	**231-836-6**
Species	rabbit		
Method	OECD 404		
Source	ECHA		
Evaluation	corrosive		
Evaluation/classification	Based on available data, the classification criteria are met.		

Serious eye damage/irritation			
No	**Substance name**	**CAS no.**	**EC no.**
1	**sodium-chlorite**	**7758-19-2**	**231-836-6**
Species	rabbit		
Source	ECHA		
Evaluation	corrosive		
Evaluation/classification	Based on available data, the classification criteria are met.		

Respiratory or skin sensitisation			
No	**Substance name**	**CAS no.**	**EC no.**
1	**sodium-chlorite**	**7758-19-2**	**231-836-6**
Route of exposure	Skin		
Species	Guinea pig		

Method	OECD 406
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.

Germ cell mutagenicity			
No	**Substance name**	**CAS no.**	**EC no.**
1	**sodium-chlorite**	**7758-19-2**	**231-836-6**

Route of exposure	oral
Type of examination	DNA-Damage
Species	rat
Method	OECD 489
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.

Reproduction toxicity			
No	**Substance name**	**CAS no.**	**EC no.**
1	**sodium-chlorite**	**7758-19-2**	**231-836-6**

Route of exposure	oral
Type of examination	Two-Generation Reproduction Toxicity Study
Species	rat
Method	EPA OPPTS 870.3800
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.
Route of exposure	oral
Type of examination	Prenatal Developmental Toxicity Study
Species	rat
Method	OECD 414
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.

Carcinogenicity
No data available

STOT - single exposure
No data available

STOT - repeated exposure			
No	**Substance name**	**CAS no.**	**EC no.**
1	**sodium-chlorite**	**7758-19-2**	**231-836-6**

Route of exposure	oral	
Duration of exposure	13	week/s
Species	rat	
Method	OECD 408	
Source	ECHA	
Evaluation/classification	Based on available data, the classification criteria are met.	

Aspiration hazard
No data available

11.2 Information on other hazards

Endocrine disrupting properties
No data available.

Other information
No data available.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**sodium-chlorite**	**7758-19-2**	**231-836-6**

LC50	105	mg/l
Duration of exposure	96	h
Species	Cyprinodon variegatus	
Method	EPA OPP 72-1	
Source	ECHA	

Toxicity to fish (chronic)
No data available

Toxicity to Daphnia (acute)				
No	**Substance name**	**CAS no.**		**EC no.**
1	**sodium-chlorite**	**7758-19-2**		**231-836-6**
EC50		< 1		mg/l
Duration of exposure		48		h
Species		Daphnia magna		
Method		OECD 202		
Source		ECHA		
Evaluation/classification		Based on available data, the classification criteria are met.		

Toxicity to Daphnia (chronic)
No data available

Toxicity to algae (acute)				
No	**Substance name**	**CAS no.**		**EC no.**
1	**sodium-chlorite**	**7758-19-2**		**231-836-6**
EC50		21		mg/l
Duration of exposure		96		h
Species		Raphidocelis subcapitata		
Method		OECD 201		
Source		ECHA		

Toxicity to algae (chronic)
No data available

Bacteria toxicity				
No	**Substance name**	**CAS no.**		**EC no.**
1	**sodium-chlorite**	**7758-19-2**		**231-836-6**
EC50		> 100		mg/l
Duration of exposure		3		h
Species		activated sludge		
Method		OECD 209		
Source		ECHA		

12.2 Persistence and degradability

Biodegradability				
No	**Substance name**	**CAS no.**		**EC no.**
1	**sodium-chlorite**	**7758-19-2**		**231-836-6**
Source		ECHA		
Evaluation		Not applicable for inorganic substances.		

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log value)				
No	**Substance name**	**CAS no.**		**EC no.**
1	**sodium-chlorite**	**7758-19-2**		**231-836-6**
log Pow		< -2.7		
Reference temperature		25		°C
Method		OECD 107		
Source		ECHA		

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.
dispose of in accordance with local regulation.

Packaging
Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information

14.1 Transport ADR/RID/ADN
The product is not subject to ADR/RID/ADN regulations.

14.2 Transport IMDG
The product is not subject to IMDG regulations.

14.3 Transport ICAO-TI / IATA
The product is not subject to ICAO-TI / IATA regulations.

14.4 Other information
No data available.

14.5 Environmental hazards
Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user
No data available.

14.7 Maritime transport in bulk according to IMO instruments
Not relevant

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)
According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

REACH candidate list of substances of very high concern (SVHC) for authorisation
According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES

The product contains following substance(s) that are considered being subject to REACH regulation (EC) 1907/2006 annex XVII.

No	Substance name	CAS no.	EC no.	No
1	propan-2-ol	67-63-0	200-661-7	75
2	sodium carbonate	497-19-8	207-838-8	75

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances
This product is not subject to Part 1 or 2 of Annex I.

Other regulations
Adhere to the national sanitary and occupational safety regulations when using this product.

15.2 Chemical safety assessment
A chemical safety assessment has not been carried out for this mixture.

SECTION 16: Other information

Sources of key data used to compile the data sheet:
Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.
Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.
Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.
The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

EUH032	Contact with acids liberates very toxic gas.
EUH071	Corrosive to the respiratory tract.
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.
H412	Harmful to aquatic life with long lasting effects.

Creation of the safety data sheet

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This information is based on our present knowledge and experience.
The safety data sheet describes products with a view to safety requirements.
It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

Alterations/supplements:
Alterations to the previous edition are marked in the left-hand margin.

Prod-ID 681781