1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Name of product

TwinOxide Component A

Manufacturer/distributor

TwinOxide International B.V.
De Tongelreep 17, NL-5684 PZ Best
Netherlands
Phone +31 499 32 92 42, Fax +31 499 32 96 20

E-Mail info@twinoxide.com
Internet http://www.twinoxide.com

Advice

TwinOxide International B.V.
Phone +31 499 32 92 42
Fax +31 499 32 96 20

Emergency advice

GIZ Nord
Phone +49 (0) 5 51 1 92 40
This number is only available at office times.

Recommended intended purpose(s)
Only to be used in combination with TwinOxide Component B for generating a chlorine dioxide solution.

2. HAZARDS IDENTIFICATION

Classification according to 67/548/EEC or 1999/45/EC
Xn; R22
T; R23/24, R32
C; R34
N; R50
O; R8

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

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
Ox. Sol. 2	**H272**	
Acute Tox. 2	**H310**	
Acute Tox. 2	**H330**	
Acute Tox. 3	**H301**	
Skin Corr. 1B	**H314**	
Aquatic Acute 1	**H400**	

3. COMPOSITION/INFORMATION ON INGREDIENTS

Description
Sodium chlorite

Hazardous ingredients

CAS Nr.	EC Nr.	REACH Reg. Nr.	Classification according to 67/548/EEC	Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]
7758-19-2	231-836-6	01-2119529240-51-0000	T R23/24; Xn R22; C R34; N R50	Acute Tox. 3, H301 / Acute Tox. 2, H330 / Acute Tox. 2, H310 / Skin Corr. 1B, H314 / Aqu. Acute 1, H400

4. FIRST AID MEASURES

General information
If threatening unconsciousness, position and transport in recovery position
Symptoms of poisoning may not occur for hours, therefore medical supervision for at least 48 hours necessary.
Adhere to personal protective measures when giving first aid.
In case of breathing difficulties give oxygen.

In case of inhalation
Remove the casualty into fresh air and keep him immobile.
If intensive inhalation of dust seek medical treatment immediately.
No mouth-to-mouth resuscitation by first aid.

In case of skin contact
In case of contact with skin wash off immediately with soap and water.
Remove contaminated clothing immediately, even underwear and shoes.

In case of eye contact
In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.
Medical treatment by eye specialist.

In case of ingestion
If swallowed seek medical advice immediately and show the doctor packing or label.
Rinse mouth (P330).
Give plenty of water to drink in small sips.

Physician's information / possible symptoms
Conjunctivitis
Coughing
Shortness of breath
Nausea
Convulsions
Gastrointestinal complaints
Collapse

Physician's information / possible dangers
Risk of pulmonary oedema

Treatment (Advice to doctor)
Treat symptoms.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Full water jet

Extinguishing media which must not be used for safety reasons
Gaseous fire-extinguishing substance

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases
In the event of fire the following can be released:
Hydrogen chloride
(HCl) Chlorine dioxide
(ClO_2)

Special protective equipment for fire-fighters
Use breathing apparatus with independent air supply.
Wear full protective clothing.
Do not inhale explosion and/or combustion gases.

Additional information
Keep people away and stay on the upwind side.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Ensure adequate ventilation.
Remove persons to safety.
Keep people away and stay on the upwind side.
Avoid dust formation.
Use personal protective clothing (see chapter 8).

Environmental precautions
Do not discharge into the drains/surface waters/groundwater.

Methods for cleaning up
Collect spillage (P391).
Send in suitable containers for recovery or disposal.
Take up mechanically.

Additional Information
Information on safe handling see chapter 7.

7. HANDLING AND STORAGE

Advice on safe handling
Avoid the formation and deposition of dust.
Treatment only by instructed and trained technical personnel.
Suitable industrial vacuum cleaners or central extraction equipment must be used for taking up dust.

Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking
Keep at distance of acids, reducing agents and organic substances (e.g. wood, paper, fat).
Explosive in mixture with organic substances.
Avoid impact, friction and electrostatically charging.
Do not use sparking tools.

Requirements for storage rooms and vessels
Ventilate store-rooms thoroughly.
Keep closed (P405). Keep only in
original container.

Advice on storage compatibility
Keep/Store away from acids/combustible materials (P220).
Do not store together with reducing agents.

Further information on storage conditions
Keep container tightly closed, store at cool and aired place, open and handle carefully.
Protect from atmospheric moisture and water
Protect from heat/overheating.
Technisches Merkblatt beachten.

Storage Group 5.1AS

Fire class B

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional advice
Observe national and local legal requirements.

Respiratory protection
Breathing apparatus in the event of dust formation.
Half mask
FFP2 (EN 149)

Hand protection
Gloves made of nitril rubber (NBR).
Glove material specification [make/type, thickness, permeation time/life, wetting resistance]:
Recommended protection glove type (use restriction time in hrs):
KCL 740 Dermatril (Splash contact; Thickness: 0,11 mm; Break-through time: > 480 min).
KCL 740 Dermatril (Full contact; Thickness: 0,11 mm; Break-through time: > 480 min)

Eye protection
Safety goggles with side protection

Skin protection
boots
apron
Chemical protective suit type 2 (DIN 32 763).

General protective measures
Do not get in eyes, on skin, or on clothing (P262).
Do not inhale dust.

Hygiene measures
Wash hands thoroughly after handling (P264).
Remove/Take off immediately all contaminated clothing (P361).
Provide washing facilities at place of work.
Do not eat, drink or smoke when using this product. (P270).
Wash soiled clothing immediately. (P362)
Wash skin thoroughly and immediately after handling the product.
Wash hands before breaks and after work.

Limitation and surveillance of the environment
Do not discharge into the drains/surface waters/groundwater.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Colour	Odour
Powder	White	Odourless

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value in delivery state	10 - 11	20 ° C	ca. 10 Gew-%		
Changes in physical state gas					not applicable
Melting point (decomposition)	> 180 ° C				
Flash point					not applicable
Flammable solid					not applicable
Ignition temperature					not applicable
Auto ignition					not applicable
Lower explosion limit					not applicable
Upper explosion limit					not applicable
Vapour pressure					
Bulk density	ca. 970 kg/m3				
Solubility in water	340 g/l	20 ° C			
Viscosity					not applicable

Oxidizing properties
Not applicable

Explosive properties
Not applicable

10. STABILITY AND REACTIVITY

Conditions to avoid
Heating (Decomposition!).

Materials to avoid
Reactions with combustible substances.
Reactions with reducing agents.
Reactions with organic substances.
Formation of chlorine dioxide under influence of acids.

Hazardous decomposition products
Chlorine compounds

11. TOXICOLOGICAL INFORMATION

Acute toxicity/Irritability/Sensitization

	Value/Validation	Species	Method	Remark
LD 50 acute oral	165 mg/kg	rat	Literature	
LD 50 acute dermal	50 - 400 mg/kg	rabbit	Literature	
LC 50 acute inhalation	0.23 mg/l (4 h)	rat	National Technical Information Service. Vol. OTS0534543	
Irritability skin	corrosive	rabbit	OECD 404	
Irritability eye	risk of strong eye injuries	rabbit eye	OECD 405	
Skin sensitization				No data available.
Sensitization respiratory system				No data available.

Experiences made from practice
Causes corrosions.

12. ECOLOGICAL INFORMATION

Data on elimination (persistence and degradability)

	Elimination rate	Method of analysis	Method	Validation
Degradability				not applicable

Inorganic product, cannot be eliminated from the water by biological purification processes.

Mobility and bioaccumulative potential
not applicable

Ecotoxicological effects

	Value	Species	Method	Validation
Fish	LC50 75 mg/l (96 h)	Cyprinodon variegatus	Literature	
Daphnia	EC50 0,29 mg/l (48 h)	Daphnia magna	Literature	
Algae				No data available.
Bacteria				No data available.

Additional ecological information

	Value	Method	Remark
AOX	Product has halogenating effect, can contribute to the absorbable organic halogen value		

13. DISPOSAL CONSIDERATIOS

Waste code no.	Name of waste
06 03 14	solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13
06 03 99	wastes not otherwise specified

Recommendations for the product
In accordance with regulations for special waste, must be taken, after pretreatment, to an authorized special waste incineration plant.

Recommendations for packaging
Packaging that cannot be cleaned should be disposed of like the product.

General information
Disposal according to 91/692/EEC.

14. TRANSPORT INFORMATION

Land and inland navigation transport ADR/RID
UN 1496 SODIUM CHLORITE, 5.1, II, (E), Classification code: O2
Marine transport IMDG
UN 1496 SODIUM CHLORITE, 5.1, II, Marine pollutant
Air transport ICAO/IATA-DGR
UN 1496 Sodium chlorite, 5.1, II
Transport/further information
Marine pollutant mark (all transport ways).

15. REGULATORY INFORMATION

Labeling according to Regulation (EC) No 1272/2008 [CLP/GHS]

GHS03 GHS05 GHS06 GHS09

Product identifiers
Sodium chlorite

Signal word
Danger

Hazard Statements

H272	May intensify fire; oxidizer.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.

Precautionary Statements

P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P221	Take any precaution to avoid mixing with combustibles / acids.
P260	Do not breathe dust.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P303 + P361 + P353	
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to special waste combustion plant.

Supplemental Hazard information (EU)
Contact with acids liberates very toxic gas

16. OTHER INFORMATION

Recommended uses and restrictions
Only for industrial consumers.
Observe national and local legal requirements.

Further information
The information contained in this data sheet is based on our present state of knowledge and experiences. It should not therefore be construed as guaranteeing specific properties of the product described on their suitability for a particular application.

Sources of key data used
GESTIS Substance data base (http://www.hvbg.de/d/bia/fac/zesp/zesp.htm)
PAN Pesticide Database (http://www.pesticideinfo.org)
ECOTOX

Wording of the R-phrases specified in chapter 3 (not the classification of the formulation!)

R 22	Harmful if swallowed.
R 23/24	Toxic by inhalation and in contact with skin.
R 32	Contact with acids liberates very toxic gas.
R 34	Causes burns.
R 35	Causes severe burns.
R 50	Very toxic to aquatic organisms.
R 51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 9	Explosive when mixed with combustible material.

H271	May cause fire or explosion; strong oxidiser.
H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.