

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

**KRONES colclean DI 8005**  
**Article number: 0903394106, 0903394107, 0903394108**

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

Production of chlorine dioxide

**1.2.2 Uses advised against**

None known.

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

**Company** KIC KRONES Internationale Cooperationsgesellschaft mbH  
 Böhmerwaldstraße 5  
 93073 Neutraubling / GERMANY  
 Phone +49 9401 70-3020  
 Fax +49 9401 70-3696  
 Homepage www.kic-krones.com  
 E-mail kic@kic-krones.com

**Address enquiries to**

**Technical information** kic@kic-krones.com

**Safety Data Sheet** sdb@chemiebuerro.de

**1.4 Emergency telephone number**

**Advisory body** +49 (0)89-19240 (24h) (english)

**SECTION 2: Hazards identification**
**2.1 Classification of the substance or mixture**

Eye Dam. 1: H318 Causes serious eye damage.  
 STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure.  
 Acute Tox. 4: H302 Harmful if swallowed.

**2.2 Label elements**

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

**Hazard pictograms**

**Signal word**

DANGER

**Contains:**

Sodium chlorite

**Hazard statements**

H318 Causes serious eye damage.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H302 Harmful if swallowed.

**Precautionary statements**

P260 Do not breathe vapours / spray.  
 P280 Wear eye protection / face 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.  
 P310 Immediately call a POISON CENTER / doctor.  
 P501 Dispose of contents/container in accordance with local/national regulation.

**Special labelling**

EUH032 Contact with acids liberates very toxic gas.

**2.3 Other hazards**
**Environmental hazards**

Does not contain any PBT or vPvB substances.

**Other hazards**

Further hazards were not determined with the current level of knowledge.

### SECTION 3: Composition / Information on ingredients

#### Product-type:

The product is a mixture.

Range [%]	Substance
15 - < 20	Sodium chlorite
	CAS: 7758-19-2, EINECS/ELINCS: 231-836-6, Reg-No.: 01-2119529240-51-XXXX
	GHS/CLP: Acute Tox. 3: H301 - Skin Corr. 1B: H314 - Ox. Sol. 1: H271 - Acute Tox. 2: H310 - STOT RE 2: H373 - Eye Dam. 1: H318 - Aquatic Acute 1: H400 - Aquatic Chronic 3: H412, M = 1

#### Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.  
All chemical substances in this material are included on or exempted from listing on the TSCA Inventory.  
For full text of H-statements: see SECTION 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

<b>General information</b>	Take off contaminated clothing and wash before reuse.
<b>Inhalation</b>	Ensure supply of fresh air. In the event of symptoms seek medical treatment.
<b>Skin contact</b>	When in contact with the skin, clean with soap and water. Consult a doctor if skin irritation persists.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a doctor immediately.
<b>Ingestion</b>	Do not induce vomiting. Rinse out mouth and give plenty of water to drink. Get medical advice.

#### 4.2 Most important symptoms and effects, both acute and delayed

No information available.

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

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	Foam. Sand. Dry powder. Water spray jet.
<b>Extinguishing media that must not be used</b>	Full water jet Carbon dioxide.

#### 5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.  
Chlorine Dioxide gas

#### 5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.  
Use self-contained breathing apparatus.  
Heat causes increase in pressure and risk of bursting - Keep away from the container.  
Cool containers at risk with water spray jet.  
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.  
Use personal protective equipment.  
Keep away from all sources of ignition.

### 6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).  
Do not discharge into the drains/surface waters/groundwater.

### 6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, universal absorbent, diatomaceous earth).  
Flush away residues with water.  
Dispose of absorbed material in accordance within the regulations.

### 6.4 Reference to other sections

See SECTION 8+13

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Use only in well-ventilated areas.  
Avoid spilling or spraying in enclosed areas.  
Avoid contact with eyes and skin. Use personal protective equipment.  
Keep away from open flames, hot surfaces and sources of ignition.  
Take precautionary measures against static discharges.  
Do not eat, drink, smoke or take drugs at work.  
Remove soiled or soaked clothing immediately.  
Wash hands before breaks and after work.  
Use barrier skin cream.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.  
Provide alkali-resistant floor.  
Do not store together with acids.  
Do not store with alkalies.  
Do not store with combustible materials (paper, rags, wood).  
Do not store together with metals.  
Do not store together with reducing agents.  
Keep container tightly closed.  
Keep container in a well-ventilated place.  
Protect from heat/overheating and from sun.  
Keep in a cool place, heat causes increase in pressure and risk of bursting.  
Prevent drying-out.  
Protect from contamination.

### 7.3 Specific end use(s)

See product use, SECTION 1.2

## SECTION 8: Exposure controls / personal protection

### 8.1 Control parameters

#### Ingredients with occupational exposure limits to be monitored (GB)

Substance
Chlorine dioxide
CAS: 10049-04-4, EINECS/ELINCS: 233-162-8, EU-INDEX: 017-026-01-0
Long-term exposure: 0,1 ppm, 0,28 mg/m <sup>3</sup>
Short-term exposure (15-minute): 0,3 ppm, 0,84 mg/m <sup>3</sup>

#### DNEL

Substance
Sodium chlorite, CAS: 7758-19-2
Industrial, inhalative, Long-term - systemic effects: 0,41 mg/m <sup>3</sup> .
Industrial, inhalative, Acute - systemic effects: 0,41 mg/m <sup>3</sup> .
Industrial, dermal, Long-term - systemic effects: 0,58 mg/kg.
Industrial, dermal, Acute - systemic effects: 0,58 mg/kg.
general population, inhalative, Long-term - systemic effects: 0,1 mg/m <sup>3</sup> .
general population, inhalative, Acute - systemic effects: 0,1 mg/m <sup>3</sup> .
general population, dermal, Long-term - systemic effects: 0,29 mg/kg.
general population, dermal, Acute - systemic effects: 0,29 mg/kg.
general population, oral, Long-term - systemic effects: 0,029 mg/kg.
general population, oral, Acute - systemic effects: 0,029 mg/kg.

#### PNEC

Substance
Sodium chlorite, CAS: 7758-19-2
freshwater, 0,00065 mg/l.
seawater, 0,00065 mg/l.
sewage treatment plants (STP), 1 mg/l.

### 8.2 Exposure controls

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
<b>Eye protection</b>	Tightly fitting goggles. (EN 166:2001)
<b>Hand protection</b>	The details concerned are recommendations. Please contact the glove supplier for further information. > 0,3 mm, Nitrile rubber, >480 min (EN 374-1/-2/-3). > 0,3 mm, PVC (EN 374-1/-2/-3).
<b>Skin protection</b>	Protective clothing.
<b>Other</b>	Avoid contact with eyes and skin. Do not breathe vapour/spray. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
<b>Respiratory protection</b>	If ventilation is insufficient, wear respiratory protection. Short term: filter apparatus, combination filter B-P3. (DIN EN 14387)
<b>Thermal hazards</b>	See SECTION 7.
<b>Delimitation and monitoring of the environmental exposition</b>	Protect the environment by applying appropriate control measures to prevent or limit emissions.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Form</b>	liquid
<b>Color</b>	colourless clear
<b>Odor</b>	odourless
<b>Odour threshold</b>	No information available.
<b>pH-value</b>	12,2
<b>pH-value [1%]</b>	No information available.
<b>Boiling point [°C]</b>	ca. 100
<b>Flash point [°C]</b>	not applicable
<b>Flammability (solid, gas) [°C]</b>	not applicable
<b>Lower explosion limit</b>	No information available.
<b>Upper explosion limit</b>	No information available.
<b>Oxidising properties</b>	CAS 7758-19-2 (25,6%)(ECHA) - The substance or mixture is not classified as oxidizing. Dried product has oxidising properties.
<b>Vapour pressure/gas pressure [kPa]</b>	ca. 25 hPas
<b>Density [g/ml]</b>	1,1
<b>Bulk density [kg/m<sup>3</sup>]</b>	not applicable
<b>Solubility in water</b>	completely miscible
<b>Partition coefficient [n-octanol/water]</b>	not applicable
<b>Relative vapour density determined in air</b>	No information available.
<b>Evaporation speed</b>	No information available.
<b>Melting point [°C]</b>	No information available.
<b>Autoignition temperature [°C]</b>	No information available.
<b>Decomposition temperature [°C]</b>	Decomposes on heating.

### 9.2 Other information

No information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Upon decomposition in closed containers and tubes risk of bursting due to buildup of overpressure.  
Risk of fire if the water component dries out.

### 10.2 Chemical stability

Stable under recommended storage conditions.  
Decomposes on heating.

### 10.3 Possibility of hazardous reactions

Evolution of chlorine under influence of acids.  
Reactions with metals, with evolution of hydrogen.  
Reactions with alkalis (lyes).  
Reactions with oxidizing agents.  
Reactions with reducing agents.  
Reactions with combustible substances.

### 10.4 Conditions to avoid

See SECTION 7

**10.5 Incompatible materials**

See SECTION 10.3.

**10.6 Hazardous decomposition products**

Oxygen.

Chlorine.

Chlorine compounds.

In the event of fire: See SECTION 5.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Product
ATE-mix, dermal, > 2000 mg/kg.
ATE-mix, oral, > 1000 - 2000 mg/kg.
Substance
Sodium chlorite, CAS: 7758-19-2
LD50, dermal, Rabbit: > 2000 mg/kg (31%-solution).
LD50, dermal, Rabbit: 134 mg/kg (Lit.).
LD50, oral, Rat: 1136 mg/kg (25%-solution).
LD50, oral, Rat: 284 mg/kg (Lit.).
LC50, inhalative, Rat: 0,23 mg/l/4h (Lit.).

<b>Serious eye damage/irritation</b>	Risk of serious damage to eyes. Calculation method
<b>Skin corrosion/irritation</b>	CAS 7758-19-2 (31%)(OECD 404, ECHA) - Non-irritant (rabbit). No classification due to toxicological investigations.
<b>Respiratory or skin sensitisation</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Specific target organ toxicity — single exposure</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Specific target organ toxicity — repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure if swallowed. Calculation method
<b>Mutagenicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Reproduction toxicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Carcinogenicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Aspiration hazard</b>	Based on the available information, the classification criteria are not fulfilled.
<b>General remarks</b>	May cause irritation of respiratory organs. Lachrymatory effect. Symptoms (If swallowed): abdominal pain, nausea, vomiting.  Toxicological data of complete product are not available. The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

## SECTION 12: Ecological information

### 12.1 Toxicity

Substance
Sodium chlorite, CAS: 7758-19-2
LC50, (96h), Americamysis bahia: 0,65 mg/l (Lit.).
LC50, (96h), fish: 105 mg/l (Lit.).
EC50, (96h), Crassostrea virginica larvae: 129 mg/l (Lit.).
EC50, (48h), Daphnia magna: < 1,0 mg/l (Lit.).
IC10, (96h), Selenastrum capricornutum: 1 mg/l (Lit.).
ErC50, Selenastrum capricornutum: 1,0 mg/l (Lit.).

### 12.2 Persistence and degradability

<b>Behaviour in environment compartments</b>	No information available.
<b>Behaviour in sewage plant</b>	No information available.
<b>Biological degradability</b>	The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

Product has having no bioaccumulation potential.

### 12.4 Mobility in soil

No information available.

### 12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

### 12.6 Other adverse effects

Harmful effect due to pH shift.  
Ecological data of complete product are not available.  
The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

#### Product

Dispose of as hazardous waste.  
Coordinate disposal with the authorities if necessary.

#### Waste no. (recommended)

160303\*  
160507\*  
160904\*

#### Contaminated packaging

Untaminated packaging may be taken for recycling.  
Packaging that cannot be cleaned should be disposed of as for product.

#### Waste no. (recommended)

150110\*

**SECTION 14: Transport information**
**14.1 UN number**

Transport by land according to ADR/RID 1908

Inland navigation (ADN) 1908

Marine transport in accordance with IMDG 1908

Air transport in accordance with IATA 1908

**14.2 UN proper shipping name**

Transport by land according to ADR/RID CHLORITE SOLUTION

- Classification Code C9

- Label



- ADR LQ 5 I

- ADR 1.1.3.6 (8.6) Transport category (tunnel restriction code) 3 (E)

Inland navigation (ADN) CHLORITE SOLUTION

- Classification Code C9

- Label



Marine transport in accordance with IMDG CHLORITE SOLUTION

- EMS F-A, S-B

- Label



- IMDG LQ 5 I

Air transport in accordance with IATA CHLORITE SOLUTION

- Label


**14.3 Transport hazard class(es)**

Transport by land according to ADR/RID 8

Inland navigation (ADN) 8

Marine transport in accordance with IMDG 8

Air transport in accordance with IATA 8



**14.4 Packing group**

Transport by land according to ADR/RID III

Inland navigation (ADN) III

Marine transport in accordance with IMDG III

Air transport in accordance with IATA III

**14.5 Environmental hazards**

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

**14.6 Special precautions for user**

Relevant information under SECTION 6 to 8.

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**

No information available.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**EEC-REGULATIONS** 1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2008/47/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014

**TRANSPORT-REGULATIONS** DOT-Classification, ADR (2017); IMDG-Code (2017, 38. Amdt.); IATA-DGR (2017).

**NATIONAL REGULATIONS (GB):** EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4

- Observe employment restrictions for people Observe employment restrictions for young people. Observe employment restrictions for mothers-to-be and nursing mothers.

- VOC (2010/75/CE) not applicable

**15.2 Chemical safety assessment**

For this product a chemical safety assessment has not been carried out.

**SECTION 16: Other information****16.1 Hazard statements (SECTION 03)**

H412 Harmful to aquatic life with long lasting effects.  
 H400 Very toxic to aquatic life.  
 H318 Causes serious eye damage.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H310 Fatal in contact with skin.  
 H271 May cause fire or explosion; strong oxidiser.  
 H314 Causes severe skin burns and eye damage.  
 H301 Toxic if swallowed.

## 16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
 ATE = acute toxicity estimate  
 CAS = Chemical Abstracts Service  
 CLP = Classification, Labelling and Packaging  
 DMEL = Derived Minimum Effect Level  
 DNEL = Derived No Effect Level  
 EC50 = Median effective concentration  
 ECB = European Chemicals Bureau  
 EEC = European Economic Community  
 EINECS = European Inventory of Existing Commercial Chemical Substances  
 ELINCS = European List of Notified Chemical Substances  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
 IC50 = Inhibition concentration, 50%  
 IMDG = International Maritime Code for Dangerous Goods  
 IUCLID = International Uniform Chemical Information Database  
 LC50 = Lethal concentration, 50%  
 LD50 = Median lethal dose  
 LC0 = lethal concentration, 0%  
 LOAEL = lowest-observed-adverse-effect level  
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships  
 NOAEL = No Observed Adverse Effect Level  
 NOEC = No Observed Effect Concentration  
 PBT = Persistent, Bioaccumulative and Toxic substance  
 PNEC = Predicted No-Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals  
 STP = Sewage Treatment Plant  
 TLV@TWA = Threshold limit value – time-weighted average  
 TLV@STEL = Threshold limit value – short-time exposure limit  
 VOC = Volatile Organic Compounds  
 vPvB = very Persistent and very Bioaccumulative

## 16.3 Other information

### Classification procedure

Eye Dam. 1: H318 Causes serious eye damage. (Calculation method)  
 STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure. (Calculation method)  
 Acute Tox. 4: H302 Harmful if swallowed. ()

**Modified position**

SECTION 2 deleted: flame over circle

SECTION 2 deleted: H271 May cause fire or explosion; strong oxidiser.

SECTION 2 deleted: Ox. Liq. 1

SECTION 2 been added: P280 Wear eye protection / face protection.

SECTION 2 deleted: P280 Wear protective gloves / protective clothing / eye protection / face protection.

SECTION 2 been added: P501 Dispose of contents/container in accordance with local/national regulation.

SECTION 2 deleted: P371+P380+P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

SECTION 2 deleted: P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

SECTION 2 deleted: P221 Take any precaution to avoid mixing with combustibles.

SECTION 5 deleted: Has a fire-promoting effect due to release of oxygen (> 150°C).

SECTION 7 been added: Avoid contact with eyes and skin. Use personal protective equipment.

SECTION 8 been added: Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.

SECTION 8 been added: Short term: filter apparatus, combination filter B-P3. (DIN EN 14387)

SECTION 9 been added: The substance or mixture is not classified as oxidizing.

SECTION 9 deleted: not determined

SECTION 9 been added: No information available.

SECTION 9 deleted: -

SECTION 10 been added: Reactions with metals, with evolution of hydrogen.

SECTION 11 been added: Based on the available information, the classification criteria are not fulfilled.

SECTION 11 deleted: not determined

SECTION 11 been added: Calculation method

SECTION 11 been added: No classification due to toxicological investigations.

SECTION 12 been added: No information available.

SECTION 12 deleted: not determined

SECTION 15 been added: Storage class 8B (VCI)

SECTION 15 deleted: Storage class 5.1B (VCI)



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