

# Safety Data Sheet



## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** ZYDOX 40

**Other name(s):** Chlorite solution 6%.

**Recommended Use of the Chemical and Restrictions on Use** Precursor for generation of chlorine dioxide gas used in water treatment.

**Supplier:** Ixom Operations Pty Ltd (Incorporated in Australia)  
**NZBN:** 9429041465226  
**Street Address:** 166 Totara Street  
Mt Maunganui South  
New Zealand

**Telephone Number:** +64 9 368 2700  
**Facsimile:** +64 9 368 2710  
**Emergency Telephone:** **0 800 734 607 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land.

Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations 2001.

**SIGNAL WORD:** DANGER

### Subclasses:

- Subclass 6.1 Category E - Substances which are acutely toxic.
- Subclass 6.8 Category A - Substances that are known or presumed human reproductive or developmental toxicants.
- Subclass 6.9 Category B - Substances that are harmful to human target organs or systems.
- Subclass 8.2 Category B - Substances that are corrosive to dermal tissue.
- Subclass 8.3 Category A - Substances that are corrosive to ocular tissue.
- Subclass 9.1 Category A - Substances that are very ecotoxic in the aquatic environment.
- Subclass 9.2 Category B - Substances that are ecotoxic in the soil environment.
- Subclass 9.3 Category C - Substances that are harmful to terrestrial vertebrates.

Water Treatment Chemicals (Corrosive) Group Standard 2006  
Approval Number: HSR002681



### Hazard Statement(s):

- H303+H313 May be harmful if swallowed or in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H360 May damage fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H422 Toxic to the soil environment.
- H433 Harmful to terrestrial vertebrates.

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## Precautionary Statement(s):

### Prevention:

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe mist/vapours/spray.  
P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P281 Use personal protective equipment as required.  
P273 Avoid release to the environment.

### Response:

P308+P313 IF exposed or concerned: Get medical advice/attention.  
P314 Get medical advice/attention if you feel unwell.  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P363 Wash contaminated clothing before re-use.  
P321 Specific treatment (see First Aid Measures on the Safety Data Sheet).  
P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
P304+P312 IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.  
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 or doctor/physician.  
P391 Collect spillage.

### Storage:

P405 Store locked up.

### Disposal:

P501 In case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided.

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Sodium chlorite	7758-19-2	5-6%	H272 H301 H310 H314 H318 H330 H373 H400
Water	7732-18-5	to 100%	-

## 4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

### Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

### Skin Contact:

If spilt on large areas of skin or hair, immediately drench with running water and remove clothing. Continue to wash skin and hair with plenty of water (and soap if material is insoluble) until advised to stop by the Poisons Information Centre or a doctor.

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## Eye Contact:

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

## Ingestion:

Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek immediate medical assistance.

## Indication of immediate medical attention and special treatment needed:

Treat symptomatically. Can cause corneal burns.

## 5. FIRE FIGHTING MEASURES

### Suitable Extinguishing Media:

Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

**Hazchem or Emergency Action Code:** 2X

### Specific hazards arising from the chemical:

Non-combustible material. Environmentally hazardous.

### Special protective equipment and precautions for fire-fighters:

Decomposes on heating emitting toxic fumes, including those of chlorine. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

## 6. ACCIDENTAL RELEASE MEASURES

### Emergency procedures/Environmental precautions:

Clear area of all unprotected personnel. Do not allow container or product to get into drains, sewers, streams or ponds. If contamination of sewers or waterways has occurred advise local emergency services.

### Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. Do not return spilled material to original container. After cleaning, flush away any residual traces with water.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Avoid skin and eye contact and breathing in vapour, mists and aerosols. Keep out of reach of children.

**Conditions for safe storage, including any incompatibilities:** Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from Activator - the chlorine dioxide is incompatible with it. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Workplace Exposure Standards:** No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Exposure Standard(s) for decomposition product(s):

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Chlorine: WES-TWA 0.5 ppm, 1.5 mg/m<sup>3</sup>; WES-STEL 1 ppm, 2.9 mg/m<sup>3</sup>  
Chlorine dioxide: WES-TWA 0.1 ppm, 0.28 mg/m<sup>3</sup>

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

WES - STEL (Workplace Exposure Standard - Short Term Exposure Limits) - The 15 minute average exposure standard. Applies to any 15 minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both short-term and eight-hour, time-weighted average exposures should be determined.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

## Appropriate engineering controls:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

## Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, CHEMICAL GOGGLES, FACE SHIELD, GLOVES (Long), APRON, RUBBER BOOTS.



Wear overalls, chemical goggles, face shield, elbow-length impervious gloves, splash apron or equivalent chemical impervious outer garment, and rubber boots. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

If determined by a risk assessment an inhalation risk exists, wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Clear Liquid  
**Colour:** Straw-coloured  
**Odour:** Characteristic Chlorine

Product Name: ZYDOX 40  
Substance No: 000000051456

Issued: 08/08/2017  
Version: 3

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<b>Solubility:</b>	Miscible in water.
<b>Specific Gravity:</b>	1.03
<b>Relative Vapour Density (air=1):</b>	Not available
<b>Vapour Pressure (20 °C):</b>	ca. 26 mm Hg
<b>Flash Point (°C):</b>	Not applicable
<b>Flammability Limits (%):</b>	Not available
<b>Autoignition Temperature (°C):</b>	Not available
<b>Boiling Point/Range (°C):</b>	105
<b>pH:</b>	10-10.5

## 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	Reacts with strong acids. Reacts with cyanides.
<b>Chemical stability:</b>	Stable.
<b>Possibility of hazardous reactions:</b>	Reacts with acids liberating toxic gas.
<b>Conditions to avoid:</b>	Avoid evaporation of the product.
<b>Incompatible materials:</b>	Incompatible with acids , metal salts , reducing agents , oxidising agents , ammonium compounds , powdered metals , chlorine and chlorine compounds , hypochlorites (bleach), sulfur and sulfite compounds, phosphorus, organic solvents, and combustible/flammable materials.
<b>Hazardous decomposition products:</b>	Oxides of chlorine.

## 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

<b>Ingestion:</b>	Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.
<b>Eye contact:</b>	A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.
<b>Skin contact:</b>	Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.
<b>Inhalation:</b>	Breathing in mists or aerosols may produce respiratory irritation.
<b>Acute toxicity:</b>	Oral LD50 (rat): 4360 mg/kg (7.5% sodium chlorite solution) Dermal LD50 (rabbit): >2020 mg/kg (7.5% sodium chlorite solution)
<b>Chronic effects:</b>	
<b>Carcinogenicity:</b>	Not listed as carcinogenic according to the International Agency for Research on Cancer (IARC).

## 12. ECOLOGICAL INFORMATION

Product Name: ZYDOX 40  
Substance No: 000000051456

Issued: 08/08/2017  
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**Ecotoxicity**

Avoid contaminating waterways.

## 13. DISPOSAL CONSIDERATIONS

**Disposal methods:**

Refer to local government authority for disposal recommendations. Dispose of contents/container in accordance with local/regional/national/international regulations.

## 14. TRANSPORT INFORMATION

**Road and Rail Transport**

Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land.



**UN No:** 1908  
**Transport Hazard Class:** 8 Corrosive  
**Packing Group:** II  
**Proper Shipping Name or Technical Name:** CHLORITE SOLUTION  
**Hazchem or Emergency Action Code:** 2X

**Marine Transport**

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

**UN No:** 1908  
**Transport Hazard Class:** 8 Corrosive  
**Packing Group:** II  
**Proper Shipping Name or Technical Name:** CHLORITE SOLUTION

**IMDG EMS Fire:** F-A  
**IMDG EMS Spill:** S-B

**Air Transport**

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

**UN No:** 1908  
**Transport Hazard Class:** 8 Corrosive  
**Packing Group:** II  
**Proper Shipping Name or Technical Name:** CHLORITE SOLUTION

## 15. REGULATORY INFORMATION

**Classification:**

Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations 2001.

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## Subclasses:

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## 16. OTHER INFORMATION

Supplier Safety Data Sheet; 07/ 2014.

This safety data sheet has been prepared by Ixom Operations Pty Ltd Toxicology & SDS Services.

## Reason(s) for Issue:

- Change in Formulation
- Change in Hazardous Chemical Classification
- Addition/Change of synonymous name(s)

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.