

SAFETY DATA SHEET



Revision date: 28-Nov-2022

Revision Number 4

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier

Product Name ZYDOX 40
Product Code(s) 000000051456

Other means of identification

UN number 1908
Synonyms Chlorite solution 6%

Recommended use of the chemical and restrictions on use

Recommended use Precursor for generation of chlorine dioxide gas used in water treatment.
Uses advised against No information available.

Details of the supplier of the safety data sheet

Supplier

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

Telephone Number: +64 9 368 2700
Facimile: +64 9 368 2710

For further information, please contact

Contact Point Product Safety Department

Emergency telephone number

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 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

GHS Classification

SIGNAL WORD

Danger

Water Treatment Chemicals (Corrosive) Group Standard 2020
Approval Number: HSR002681

Skin corrosion/irritation

Category 1 Sub-category B

Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 1
Specific target organ toxicity (repeated exposure)	Category 2
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Label elements**Hazard statements**

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

H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements - Prevention

Keep out of reach of children.

Do not breathe fume, gas, mist, vapours, spray

Wash hands thoroughly after handling

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves / protective clothing / eye protection / face protection

In case of inadequate ventilation wear respiratory protection

Avoid release to the environment

Precautionary Statements - Response

Specific treatment (see First aid on this SDS)

Get medical advice/attention if you feel unwell

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

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

Take off contaminated clothing and wash before reuse

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Collect spillage

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other hazards which do not result in classification

Contact with acids liberates very toxic gas

May be harmful if swallowed

May be harmful in contact with skin

3. COMPOSITION/INFORMATION ON INGREDIENTS**Mixture**

Chemical name	CAS No.	Weight-%
Sodium chlorite	7758-19-2	5-6
Water	7732-18-5	to 100

4. FIRST AID MEASURES

Description of first aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Show this safety data sheet to the doctor in attendance.
Emergency telephone number	Poisons Information Center, New Zealand: 0800 764 766 Poisons Information Center, Australia: 13 11 26
Inhalation	Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water. Immediately call a POISON CENTER or doctor/physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.

Most important symptoms and effects, both acute and delayed

Symptoms	Irritation/Corrosion. May cause redness and tearing of the eyes. Erythema (skin redness). Burning.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically. Can cause corneal burns.
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5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media	Dry chemical, CO2, water spray or regular foam.
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Unsuitable extinguishing media	No information available.
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Specific hazards arising from the chemical

Specific hazards arising from the chemical	Corrosive hazard. Wear protective gloves/clothing and eye/face protection. Environmentally hazardous. Non-combustible.
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Special protective actions for fire-fighters

Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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Hazchem code	2X
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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Attention! Corrosive material. Avoid contact with skin, eyes and inhalation of vapors.
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Evacuate personnel to safe areas. Do not touch or walk through spilled material. Use personal protective equipment as required. Wash thoroughly after handling.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes, and clothing. Do not breathe fume, gas, mist, vapours, spray. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Use personal protection equipment. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from foodstuffs. Keep container closed when not in use.

Incompatible materials Acids. Bases. Chlorine. Combustible material. Hypochlorites. Finely powdered metals. Phosphorus. Organic solvents. Reducing agents. Sulfur. Sulfites.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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

Chlorine: WES-TWA 0.5 ppm, 1.5 mg/m³; WES-STEL 1 ppm, 2.9 mg/m³

Chlorine dioxide: WES-TWA 0.1 ppm, 0.28 mg/m³

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

Engineering controls Ensure that eyewash stations and safety showers are close to the workstation location. Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

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.



Eye/face protection	Tight sealing safety goggles. If splashes are likely to occur: Face protection shield.
Hand protection	Impervious gloves.
Skin and body protection	Boots. Apron. Wear suitable protective clothing. Overalls.
Respiratory protection	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.
Environmental exposure controls	No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Color	Straw - Coloured
Odor	Slight chlorine
Odor threshold	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	10-10.5	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	105°C	None known
Flash point	Not applicable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive	No data available	

limits		
Lower flammability or explosive limits	No data available	
Vapor pressure	ca. 26 mmHg @20°C	None known
Vapor density	No data available	None known
Relative density	1.03	None known
Water solubility	Miscible in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information**10. STABILITY AND REACTIVITY**Reactivity

Reactivity Contact with acids liberates very toxic gas.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions Contact with acids liberates very toxic gas.

Conditions to avoid

Conditions to avoid Do not allow evaporation to dryness. Direct sunlight. Contact with other chemicals.

Incompatible materials

Incompatible materials Acids. Bases. Chlorine. Combustible material. Hypochlorites. Finely powdered metals. Phosphorus. Organic solvents. Reducing agents. Sulfur. Sulfites.

Hazardous decomposition products

Hazardous decomposition products Chlorine. Chlorine dioxide.

11. TOXICOLOGICAL INFORMATIONAcute toxicityInformation on likely routes of exposure

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

Inhalation	May cause irritation.
Eye contact	Causes serious eye damage.
Skin contact	Contact causes severe skin irritation and possible burns.
Ingestion	Can burn mouth, throat, and stomach.
Symptoms	Irritation/Corrosion. May cause redness and tearing of the eyes. Erythema (skin redness). Burning.

Acute toxicity**Numerical measures of toxicity**

Refer to component information below.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium chlorite	= 165 mg/kg (Rat)	-	= 230 mg/m ³ (Rat) 4 h

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Causes burns. Classification is based on mixture calculation methods based on component data.
Serious eye damage/eye irritation	Causes serious eye damage. Classification is based on mixture calculation methods based on component data.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	New Zealand	IARC
Sodium chlorite - 7758-19-2		Group 3

IARC (International Agency for Research on Cancer)

Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity	H360 - May damage fertility or the unborn child. Classification is based on mixture calculation methods based on component data.
STOT - single exposure	No information available.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure. Classification is based on mixture calculation methods based on component data.
Aspiration hazard	No information available.

12. ECOLOGICAL INFORMATION**Ecotoxicity****Ecotoxicity** Keep out of waterways. Very toxic to aquatic life with long lasting effects.

Terrestrial ecotoxicity There is no data for this product.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Sodium chlorite	-	LC50: 100 - 500mg/L (96h, Brachydanio rerio) LC50: >100mg/L (96h, Lepomis macrochirus) LC50: >100mg/L (96h, Oncorhynchus mykiss)	EC50: =0.026mg/L (48h, Daphnia magna) EC50: 0.25 - 0.33mg/L (48h, Daphnia magna) EC50: 0.012 - 0.018mg/L (48h, Daphnia magna)

Persistence and degradability

Persistence and degradability No information available.

Bioaccumulative potential

Bioaccumulation No information available.

Mobility

Mobility in soil No information available.

Other adverse effects

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of product in packaging/container in a way that is consistent with the Hazardous Substances (Disposal) Notice 2017 and the Act, and Hazardous Substances (Amendments and Revocations) Notice 2020. Treat the chemical using a method that changes the characteristics or composition of the chemical so that the chemical is no longer a hazardous chemical; or export the chemical from New Zealand as waste. Class 6 and 8 chemicals – may be discharged into the environment if a tolerable exposure limit has been set for the substance (or a component of that chemical); and the discharge does not, after reasonable mixing, result in the concentration of the substance in an environmental medium exceeding the tolerable exposure limit. If there is not tolerable exposure limit for the substance, then it may only be discharged into the environment if the substance is very rapidly converted to substances that are not hazardous substances.

Contaminated packaging

Packages may only be reused or recycled if the package has been treated to remove any residual contents of the hazardous chemical (class 1, 2, 3, 4, or 5); or the contents of the residue in the package are below the threshold for the chemical to be classified as hazardous (class 6, 8, or 9 chemical). Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

UN number 1908
Proper shipping name CHLORITE SOLUTION
Hazard class 8
Packing group II

Hazchem code	2X
<u>IATA</u>	Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.
UN number	1908
UN proper shipping name	CHLORITE SOLUTION
Transport hazard class(es)	8
Packing group	II
<u>IMDG</u>	Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.
UN number	1908
UN proper shipping name	CHLORITE SOLUTION
Transport hazard class(es)	8
Packing group	II
IMDG EMS Fire	F-A
IMDG EMS Spill	S-B
Marine pollutant	Yes

15. REGULATORY INFORMATION

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

New Zealand

National regulations See section 8 for national exposure control parameters

International Inventories

NZIoC	All the constituents of this material are listed on the New Zealand Inventory of Chemicals.
TSCA	Contact supplier for inventory compliance status.
DSL/NDL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AIIC	Contact supplier for inventory compliance status.

Legend:

NZIoC - New Zealand Inventory of Chemicals

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AIIC - Australian Inventory of Industrial Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. OTHER INFORMATION

Prepared By This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

Issuing Date: 28-Nov-2022

Reason(s) For Issue: 5 Yearly Revised Primary SDS

Revision Note:

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australian Industrial Chemicals Introduction Scheme (AICIS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 RTECS (Registry of Toxic Effects of Chemical Substances)
 World Health Organization

Disclaimer

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.

End of Safety Data Sheet