

1. Identification of Substance & Company

Product

Product name	ROTHENBERGER Disposable Oxygen Cylinder
Other names	#1400i
Product code	ROOXY
HSNO approval	HSR001029
Approval description	Oxygen
UN number	1072
Proper Shipping Name	OXYGEN, COMPRESSED
DG class	5.1
Packaging group	NA
Hazchem code	2S
Uses	cutting gas, heating, steel manufacture, welding

Company Details

Company	Toolware Sales LTD
Address	3 Stonedon Drive East Tamaki Auckland 2013
Telephone	+64 9 579 8080
Website	www.toolware.co.nz

Emergency Telephone Number: 0800 764 766

2. Hazard Identification

Approval

This product has been approved under the Hazardous Substances and New Organisms Act (HSNO, HSR001029, Oxygen). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Hazard Classification) Notice 2020.

GHS 7 Classes

Oxidising gas Category 1

Hazard Statements

H270 - May cause or intensify fire; oxidizer.
H280 - Contains gas under pressure; may explode if heated.

SYMBOLS

DANGER



Other Classifications

In Australia the following Hazard Statement also applies:
AUH044 – Risk of explosion if heated under confinement.

Precautionary Statements

Prevention	P103 - Read label before use. P220 - Keep/Store away from combustible materials. P244 - Keep reduction valves free from grease and oil.
Response	P370+P376 - In case of fire: Stop leak if safe to do so.
Storage	P403 - Store in a well-ventilated place.
Disposal	P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Class for ingredient(s)	Concentration
Oxygen	7782-44-7	Oxidising gas category 1	>99.5%
Argon	7440-37-1	Non hazardous	≤0.5%
Nitrogen	7727-37-9	Non hazardous	<500ppm
Hydrogen	1333-74-0	Flammable gas category 1	<500ppm
Hydrocarbon as methane	Not available	Flammable gas category 1	,1ppm

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

4. First Aid

General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been harmed, burned or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

Recommended first aid facilities

Ready access to running water is recommended.

Exposure

Swallowed

The product is not considered poisonous. Ingestion is unlikely due to product form (gaseous). In case of persistent symptoms, contact the National Poisons Centre or a Doctor.

Eye contact

If product gets in eyes, this may result in a cold burn. Immediately flush eyes with tepid water or sterile saline solution. Holding eyelids apart, continue to wash for 15 mins. Seek medical advice.

Skin contact

This product is non-irritating to skin. However, contact may result in a cold burn. Remove contaminated clothing and gently flush affected areas with tepid or cold water for 15 minutes. Apply sterile dressing and treat as for a thermal burn. For large burns, immerse in cold water for 15 minutes. DO NOT apply any form of direct heat. Seek immediate medical attention.

Inhaled

Although the gases are non toxic, they are considered to be asphyxiants. Remove from area of exposure immediately. If assisting a victim avoid becoming a casualty, wear an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Be aware of possible explosive atmospheres. If victim is not breathing apply artificial respiration and seek urgent medical attention. Give oxygen if available. Keep warm and rested. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor.

Advice to Doctor

If frozen tissue has thawed since exposure do not re-warm but apply sterile dressing with loose bandaging. To thaw frozen tissue, place in a warm (41-45°C) water bath for 15 to 60 minutes, or until the skin turns pink or red. Analgesia will be necessary during thawing. For massive exposure, general body temperature may be depressed and patient must be immediately re-warmed by whole-body immersion in a warm (41-45°C) water bath. Shock may occur during re-warming. When thawed, treat as with heat burns.

5. Firefighting Measures

Fire and explosion hazards:

Non-flammable gas, but is oxidising. This product will vigorously support a fire. Cylinders may rupture in a fire. Do not approach cylinders suspected to be hot. Remove cool cylinders from the path of a fire if safe to do so. Ensure working area is well ventilated before re-use.

Suitable extinguishing substances:

Carbon dioxide, extinguishing powder, foam, fog sprays.

Unsuitable extinguishing substances:

Unknown.

Products of combustion:

May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.

Protective equipment:

Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.

Hazchem code:

2S

6. Accidental Release Measures

Containment	If greater than >100 kg (<i>non-permanent gas</i>) or 100 m ³ (<i>permanent gas</i>) is stored, emergency response plans to manage any potential gas leak must be in place.
Emergency procedures	Pressurised liquid leaks will immediately vaporise at normal air pressures. Avoid contact of the liquid with skin and eyes. If cylinder is leaking, evacuate personnel. Extinguish or remove all sources of ignition. Switch off power supplies. Shut off leak if safe to do so. Contact emergency authorities and advise of nature of hazard. Regular monitoring is to be carried out until the area is free of dispersed gas.
Clean-up method	Increase ventilation.
Disposal	Return empty cylinders to supplier or manufacturer. Inform supplier of leak. Do not attempt to repair leaking valves or cylinder safety devices.
Precautions	Wear appropriate PPE (see section 8).

7. Storage & Handling

Storage	Do not store near sources of ignition or incompatible materials. Cylinders should be stored below 45°C in a secure area, upright and restrained to prevent cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.
Handling	Before use carefully read the product label. Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements.

8. Exposure Controls / Personal Protective Equipment

Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m³ for respirable particulates and 10mg/m³ for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA	WES-STEL
	oxygen	Not listed	Not listed

Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

Personal Protective Equipment

General	Personal Protective Equipment (PPE) should not be used as the primary means of exposure protection, except in the event of an accident or emergency situation or where all other means of protection have proven to inadequate. Clean PPE after use or dispose of as appropriate. Store PPE for re-use in a clean place. Regular training on the correct use of PPE should be provided. In particular the correct fitting and use of respirators and where applicable the cleaning of respirators should be undertaken.
Eyes	Protective eyewear is not normally necessary when using this product. However, it is always prudent to use protective eyewear if leaks are likely especially when handling valves and cylinders.
Skin	Protective gloves and clothing are not normally necessary. However, it is prudent to wear gloves when handling cylinders and valves.
Respiratory	Wear an Air-line respirator or self-contained Breathing Apparatus (SCBA), where a risk of inhalation exists.

WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance	colourless gas
Odour	odourless
Odour Threshold	no data
pH	no data
Freezing/melting point	-219°C
Boiling Point	-183°C
Flashpoint	no data
Flammability	no data
Upper & lower flammable limits	no data
Vapour pressure	no data
Vapour density	no data
Specific gravity/density	1.1
Solubility	39mg/L
Partition coefficient	no data
Auto-ignition temperature	no data
Decomposition temperature	no data
Viscosity	no data
Particle Characteristics	no data
Volatile materials	no data

10. Stability & Reactivity

Stability	This product is unlikely to react or decompose under normal storage conditions. This product will not undergo polymerisation reactions.
Conditions to be avoided	Oxidising substance. Keep away from combustible material, heat and sources of ignition at all times.
Incompatible groups	Combustible material, Acids.
Hazardous decomposition products	Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen, and under some circumstances, oxides of nitrogen. Water.
Hazardous reactions	No specific hazards.

11. Toxicological Information

Summary

IF SWALLOWED: Ingestion is unlikely due to product form (gaseous).

IF ON SKIN: This product is non-irritating to skin. However, contact may result in a cold burn.

IF IN EYES: If product gets in eyes, this may result in a cold burn.

IF INHALED; The gas mixture is not considered toxic if inhaled, however inhalation of high concentrations may cause nausea, dizziness, respiratory difficulty and convulsion.

Supporting Data

Acute	Oral	Oxygen is not acutely toxic if swallowed. Unlikely form of exposure.
	Dermal Inhaled	No evidence of dermal toxicity. The substance is not considered acutely toxic if inhaled by the EPA. The result of breathing elevated concentrations of oxygen is hyperoxia.
Chronic	Eye	Oxygen is not considered to be an eye irritant.
	Skin	Oxygen is not considered to be a skin irritant.
	Sensitisation	No ingredient present at concentrations > 0.1% is considered a sensitizer.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity Reproductive / Developmental	No ingredient present at concentrations > 0.1% is considered a carcinogen. No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.
	Systemic	No ingredient present at concentrations > 1% is considered a target organ toxicant.
	Aggravation of existing conditions	None known.

12. Ecological Data

Summary

This products are not considered ecotoxic.

Supporting Data

Aquatic	Oxygen forms 20.95 % (v/v) of the atmosphere and is not toxic to aquatic or terrestrial life.
Degradability	This product is a gas and will not accumulate in the soil or water or cause long term problems.
Soil	No data available for the mixture. This product is a gas and is not considered to be harmful in the soil environment.
Terrestrial vertebrate	The mixture is not considered to be harmful towards terrestrial vertebrates. The LD ₅₀ is likely to be >5000mg/kg and the LC ₅₀ (diet) is >5000mg/kg.
Terrestrial invertebrate	No data for the mixture. None of the ingredients are considered toxic towards terrestrial invertebrates.

13. Disposal Considerations

Restrictions	There are no product-specific restrictions, however, local council and resource consent conditions may apply.
Disposal method	Cylinders should be returned to the supplier or manufacturer for recycling.

14. Transport Information

Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

UN number:	1072	Proper shipping name:	OXYGEN, COMPRESSED
Class(es)	5.1	Packing group:	NA
Precautions:	Oxidising gas, compressed	Hazchem code:	2S

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR001029, Oxygen. All ingredients appear on the NZIoC.

Specific Controls

Key workplace requirements are:

SDS	To be available within 10 minutes in workplaces storing any quantity.
Labelling	No removal of labels and/or decanting of product into other cylinders can occur.
Emergency response plan	Required if >100 kg (non-permanent gas) or 100 m ³ (permanent gas) is stored.
Certified handler	Not required.
Tracking	This substance is not required to be tracked.
Signage	Required if > 250 kg (non-permanent gas) or 500 m ³ (permanent gas) is stored in any one location. (Oxidising gas)
Location compliance certificate	Required if > 100 kg (non-permanent gas) or 200 m ³ (permanent gas) is stored in any one location. Where substance is manufactured or used if >50 kg (non-permanent gas) or 50 m ³ (permanent gas) is present.
Flammable zone	Must be established if 100 kg (non-permanent gas) or 30 m ³ (permanent gas) is stored in any one location.
Fire extinguisher	If >10 kg (non-permanent gas) or 10 m ³ (permanent gas) present.
SDS	To be available within 10 minutes in workplaces storing any quantity.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016,

local Council Rules and Regional Council Plans.

16. Other Information**Abbreviations**

Approval Code	Approval HSR001029, Oxygen. Controls, EPA. www.epa.govt.nz
CAS Number	Unique Chemical Abstracts Service Registry Number
EC₅₀	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
EPA	Environmental Protection Authority (New Zealand)
GHS	Globally Harmonised System of Classification and Labelling of Chemicals, 7 th revised edition, 2017, published by the United Nations.
HAZCHEM Code	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
HSNO	Hazardous Substances and New Organisms (Act and Regulations)
IARC	International Agency for Research on Cancer
LEL	Lower Explosive Limit
LD₅₀	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC₅₀	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
NZIoC	New Zealand Inventory of Chemicals
MSDS (SDS)	Material Safety Data Sheet (or Safety Data Sheet)
STEL	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
STOT RE	System Target Organ Toxicity – Repeated Exposure
STOT SE	System Target Organ Toxicity – Single Exposure
TWA	Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)
UEL	Upper Explosive Limit
UN Number	United Nations Number
WES	Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

References

Data	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).
Controls	EPA notices, www.epa.govt.nz , Health and Safety at Work (Hazardous Substances) Regulations 2017, www.legislation.govt.nz
WES	The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – www.worksafe.govt.nz .
Other References:	Suppliers SDS

Review

Date	Reason for review
December 2018	Not applicable – new SDS
December 2023	5 yearly update

Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely GHS 7 classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: +64 21 1040951.

