

SAFETY DATA SHEET



Revision date: 17-Oct-2024

Revision Number 7

Section 1: Identification

Product identifier

Product Name TRICHLOROETHYLENE

Product Code(s) 000031022901

Other means of identification

UN number or ID number 1710

CAS No. 79-01-6

Synonyms Trineu; Acetylene trichloride; Trilene; Tri stabilised; TCE stabilised; Trichloroethene; Triklone; Ethylene trichloride.

Recommended use of the chemical and restrictions on use

Recommended use Industrial solvent. Metal degreasing agent.

Uses advised against No information available.

Details of manufacturer or importer

Supplier

IXOM Operations Pty Ltd
ABN: 51 600 546 512
Level 8, 1 Nicholson Street
Melbourne 3000
Australia

Telephone Number: +61 3 9906 3000

Emergency telephone number

Emergency telephone number **1 800 033 111 (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.

Section 2: Hazard identification

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

GHS Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3

Label elements

Skull and crossbones
Health hazard
Exclamation mark

**Signal word**

DANGER

Hazard statements

H315 - Causes skin irritation
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H341 - Suspected of causing genetic defects
H350 - May cause cancer

Precautionary Statements - Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash face, hands and any exposed skin thoroughly after handling.
Wash eyes thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/clothing and eye/face protection.
Use personal protective equipment as required.
Avoid release to the environment.

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention.
Specific treatment (see First aid on this SDS).
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed.
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

Harmful to aquatic life with long lasting effects.

Section 3: Composition and information on ingredients

Chemical name	CAS No.	Weight-%
Trichloroethylene	79-01-6	>=99.3

Section 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.
Inhalation	Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.
Eye contact	In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Skin contact	Wash skin with soap and water. Get medical attention if symptoms occur.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed

Symptoms	Erythema (skin redness). May cause redness and tearing of the eyes. Vapors may cause drowsiness and dizziness. Irritation.
Effects of Exposure	No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically. Adrenaline and similar sympathomimetic drugs should be avoided following exposure as cardiac arrhythmia may result with possible subsequent cardiac arrest. Gastric lavage may be effective within 4 hours of ingestion. Following ingestion adsorbants such as activated carbon may be of value.
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Section 5: Firefighting measures**Suitable Extinguishing Media**

Suitable extinguishing media Dry chemical, CO₂, water spray or regular foam.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical Thermal decomposition can lead to release of toxic and corrosive gases/vapors. In use may form flammable/explosive vapour-air mixture. Vapour concentrations of 12.5%-90% v/v between 30°C and 82°C may ignite if in contact with high temperature heat sources. Vapour may ignite above 25.5°C if mixed with pure oxygen (10.3%-64.5% v/v). Certain mixtures in air can ignite with high intensity sources of heat, such as welding arcs, sparks and flames or at high temperatures and pressures. Welding or cutting should not be carried out on any vessel likely to contain solvent. Environmentally hazardous.

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters Keep containers cool with water spray. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire.

Hazchem code 2Z

Section 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Do not touch or walk through spilled material. Evacuate personnel to safe areas. Use personal protective equipment as required. Stop leak if you can do it without risk. Wash thoroughly after handling.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions Cover spillage with foam to reduce evaporation.

Methods and material for containment and cleaning up

Methods for containment Dike to collect large liquid spills.

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.

Section 7: Handling and storage**Precautions for safe handling**

Advice on safe handling Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Use personal protection equipment. Wash thoroughly after handling. 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. Keep container closed when not in use.

This material is a Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations. Store away from foodstuffs.

Incompatible materials Strong bases. Active metals (Alkali metals, Na, Ca). Magnesium. Hot metals.

Section 8: Exposure controls and personal protection**Control parameters****Exposure Limits**

Chemical name	Australia	New Zealand	ACGIH TLV
Trichloroethylene 79-01-6	TWA: 10 ppm TWA: 54 mg/m ³ STEL: 40 ppm STEL: 216 mg/m ³	TWA: 10 ppm TWA: 55 mg/m ³ STEL: 25 ppm STEL: 135 mg/m ³	TWA: 10 ppm STEL: 25 ppm

Chemical name	European Union	United Kingdom	Germany DFG
Trichloroethylene 79-01-6	TWA: 54.7 mg/m ³ TWA: 10 ppm *	TWA: 100 ppm TWA: 550 mg/m ³ STEL: 150 ppm STEL: 820 mg/m ³	Sk*

		Sk*	
Chemical name	Australia	ACGIH	European Union
Trichloroethylene 79-01-6	-	15 mg/L 0.5 mg/L	-

Trichloroethylene: 8hr TWA = 54 mg/m³ (10 ppm), 15 min STEL = 216 mg/m³ (40 ppm), Carcinogen Category 1B, Sk

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

Carcinogen Category 1B - presumed human carcinogen. There is sufficient evidence to provide a strong presumption that human exposure may result in the development of cancer. This evidence is generally based on appropriate long term animal studies, limited epidemiological evidence or other relevant information.

'Sk' (skin) Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

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 adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits.

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. DO NOT enter confined spaces where vapour may have collected.

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, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, RESPIRATOR.



Eye/face protection

Goggles.

Skin and body protection

Boots. Overalls. Wear suitable protective clothing.

Hand protection

Impervious gloves.

Respiratory protection

If determined by a risk assessment an inhalation risk exists, wear an organic vapour

respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Environmental exposure controls No information available.

Thermal hazards No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance Clear
Color Colourless
Odor Chloroform -like
Odor threshold 21.4 ppm

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	-84.8°C	None known
Boiling point / boiling range	86-88°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 limits	10.5% (V)	
Lower flammability or explosive limits	8% (V)	
Vapor pressure	81.3 hPa at 20°C	None known
Vapor density	4.54 (air=1)	None known
Relative density	1.46-1.47 at 20°C	None known
Water solubility	Slightly miscible	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	410°C	None known
Decomposition temperature	>120°C	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	0.42 mPa.s @25°C	None known

Other information

Section 10: Stability and reactivity

Reactivity

Reactivity Explosible with air in a vaporous/gaseous state when heated.

Chemical stability

Stability Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Explosion data

Sensitivity to mechanical impact None.
Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. May react violently with active metals.

Conditions to avoid

Conditions to avoid Moisture. Direct sunlight. Contact with foodstuffs.

Incompatible materials

Incompatible materials Strong bases. Active metals (Alkali metals, Na, Ca). Magnesium. Hot metals.

Hazardous decomposition products

Hazardous decomposition products Hydrogen chloride. Phosgene.

Section 11: Toxicological information

Information 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 central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. Inhalation of vapors in high concentration may cause irritation of respiratory system. Vapors can have a narcotic effect. High concentrations lead to unconsciousness - life threatening.

Eye contact Causes serious eye irritation.

Skin contact Causes skin irritation. May be absorbed through the skin in harmful amounts.

Ingestion Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkenness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs.

Symptoms Irritation. Erythema (skin redness). May cause redness and tearing of the eyes. Vapors may cause drowsiness and dizziness.

Acute toxicity

Numerical measures of toxicity - Product Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Trichloroethylene	= 4920 mg/kg (Rat)	= 29000 mg/kg (Rabbit)	= 26 mg/L (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 skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity Suspected of causing genetic defects.

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

Chemical name	Australia	European Union	IARC
Trichloroethylene - 79-01-6	Carc. 1B	Carc. 1B	Group 1

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Reproductive toxicity No information available.

STOT - single exposure May cause drowsiness or dizziness.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Section 12: Ecological information

Ecotoxicity

Aquatic ecotoxicity Harmful to aquatic life with long lasting effects. Keep out of waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Trichloroethylene	EC50: =450mg/L (96h, <i>Desmodesmus subspicatus</i>) EC50: =175mg/L (96h, <i>Pseudokirchneriella subcapitata</i>)	LC50: 31.4 - 71.8mg/L (96h, <i>Pimephales promelas</i>) LC50: 39 - 54mg/L (96h, <i>Lepomis macrochirus</i>)	-	EC50: =2.2mg/L (48h, <i>Daphnia magna</i>)

Terrestrial ecotoxicity

Chemical name	Earthworm	Avian	Honeybees
Trichloroethylene	Acute Toxicity: LC50 > 1000 mg/kg (<i>Eisenia foetida</i> 28 Days soil dry weight) Source: IUCLID Acute Toxicity: LC50 = 0.105 mg/cm ² (<i>Eisenia foetida</i> 48 h filter paper) Source: IUCLID	-	-

Persistence and degradability**Persistence and degradability** No information available.**Bioaccumulative potential****Bioaccumulation** Material does not bioaccumulate.**Component Information**

Chemical name	Partition coefficient
Trichloroethylene	2.53

Mobility**Mobility** No information available.**Other adverse effects****Other adverse effects** No information available.**Section 13: Disposal considerations****Waste treatment methods****Waste from residues/unused products** Refer to Waste Management Authority. Dispose of material through a licensed waste contractor.**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

See section 8 for more information

Section 14: Transport information**ADG** Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

UN number or ID number 1710
Proper shipping name TRICHLOROETHYLENE
Transport hazard class(es) 6.1
Packing group III
Hazchem code 2Z

IATA 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 1710
UN proper shipping name TRICHLOROETHYLENE
Transport hazard class(es) 6.1
Packing group III

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

UN number 1710
UN proper shipping name TRICHLOROETHYLENE
Transport hazard class(es) 6.1
Packing group III
IMDG EMS Fire F-A
IMDG EMS Spill S-A

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available

Section 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Australia**

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

See section 8 for national exposure control parameters

Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison Schedule Number 6**Australian Industrial Chemicals Introduction Scheme (AICIS)**

Contact supplier for inventory compliance status

Chemical name	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Trichloroethylene - 79-01-6	Present	Specific information requirement: Obligations to provide information apply. You must tell us within 28 days if the circumstances of your importation or manufacture (introduction) are different to those in our assessment.

Illicit Drug Precursors/Reagents

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

National pollutant inventory

Subject to reporting requirement

Chemical name	National pollutant inventory
Trichloroethylene - 79-01-6	10 tonne/yr Threshold category 1

International Inventories**AIIC**

This material is listed on the Australian Inventory of Industrial Chemicals.

NZIoC

This material is listed on the New Zealand Inventory of Chemicals.

TSCA

Contact supplier for inventory compliance status.

DSL/NDSL

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.

Legend:**AIIC**- Australian Inventory of Industrial Chemicals**NZIoC** - New Zealand Inventory of Chemicals**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - 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**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**Section 16: Other information**

Supplier Safety Data Sheet 03/ 2024

Reason(s) For Issue: 5 Yearly Revised Primary SDS**Prepared By** This Safety Data Sheet has been prepared by IXOM Operations Pty Ltd (Toxicology and SDS Services).**Revision date:** 17-Oct-2024**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**

SVHC: Substances of Very High Concern for Authorization:

PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances

vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

STOT: Specific Target Organ Toxicity

ATE: Acute Toxicity Estimate

LC50: 50% Lethal Concentration

LD50: 50% Lethal Dose

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)

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)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
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)
U.S. 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
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