MATERIAL SAFETY DATA SHEET

Section 1 - Identification of Chemical Product and Company

Candan Industries Pty Ltd
65 Chetwynd Street, Loganholme Qld 4129 Phone: (07) 3209 8733

Substance: Tetrachloroethylene is a chlorinated hydrocarbon. Presented as bulk packaged containers.
Trade Name: **INOX-mx11 Chain & Brake Clean**
Product Use: Chain, brake & parts degreaser/cleaner.
Revision Date: **June 2008**

Section 2 - Hazards Identification

Statement of Hazardous Nature

This product is classified as: T, Toxic. N, Dangerous to the environment. Hazardous according to the criteria of ASCC. Dangerous according to the Australian Dangerous Goods (ADG) Code.

Risk Phrases: R40, R51/53. Harmful if swallowed. May cause cancer. Repeated exposure may cause skin dryness or cracking. Possible risk or irreversible effects. Toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment.

Safety Phrases: S2, S23, S61, S36/37. When using, do not eat or drink. Do not breathe vapours. Avoid release to the environment. Refer to special instructions/Safety Data Sheets. When using, do not eat, drink or smoke. Avoid contact with skin and eyes. Wear suitable protective clothing and gloves.

SUSDP Classification: S6

ADG Classification: Class 6.1

UN Number: 1897

Emergency Overview

Physical Description & Colour: Clear, colourless liquid.
Odour: Ether-like odour
Major Health Hazards: May cause cancer, harmful if swallowed.

Potential Health Effects

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort. Intentional misuse by deliberately concentrating and inhaling contents of aerosol containers can be harmful or fatal.

Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: Major health effect from this product is misuse of the aerosol function. If sprayed continuously on skin or in eyes, it can cause frostbite.

Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: Available data shows that this product is not harmful. If sprayed directly in the eye, this product will irritate. If spraying is prolonged, it may cause damage through frostbite.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. However, this product is believed to be mildly irritating to mucous membranes but is unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

ASCC: Perchloroethylene is classified by ASCC as a Class 3 Carcinogen, possibly carcinogenic to humans.
See the ASCC website for further details. A web address has not been provided as addresses frequently change.
NTP: Perchloroethylene is classified by NTP as reasonably anticipated to be carcinogenic to humans.
See the NTP website for further details. A web address has not been provided as addresses frequently change.
IARC: Perchloroethylene is classed 2a by IARC - probably carcinogenic to humans.
See the IARC website for further details. A web address has not been provided as addresses frequently change.

Poisons Information Centre: 13 11 26 from anywhere in Australia, (0800 764 766 in New Zealand)

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc,%	TWA (mg/m^3)	STEL (mg/m^3)
Tetrachloroethylene (Perchloroethylene)	127-18-4	> 98	340	1020

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The ASCC TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

Swallowed: Do not induce vomiting and refer for medical attention. If he vomits, at least lay his head on his side. In case of unconsciouness, lay him down on his head on his side for stand-by and carriage.

Eye: Wash the eye with a large amount of clean water immediately for over 15 minutes. To make it effective, widen the eyelid with fingers and move the eyeball to all the directions. Even if it hurts, do not rub. See an ophthalmologist as soon as possible.

Skin: Wash the attached portion of the body with water. Take off the clothes, the shoes and the socks immediately and keep them away if the liquid attaches to them.

Inhaled: Move the patient to a place with good ventilation. Lower the head, lay him on his side and warm him. If he loses consciousness, remove foreign matters in the mouth to prevent them from blosking the throat. If he ceases to breathe, immediately resort to the artificial respiration and refer for medical attention.

Advice to Doctor: Treat according symptoms.

Section 5 - Fire Fighting Measures

Extinguishing Media: Fire-fighters should wear full protective clothing including self-contained breathing apparatus. Fire does not occur as it does not have spontaneous combustibility. However, toxic gases such as hydrogen chloride, phosgene, carbon monoxide, chlorine gas and etc. are generated when the fire occurs under the special conditions. Use carbon dioxide, dry chemical powder and foam.

Hazards from Combustion Products: Nonflammable under normal condition and no danger of flash or explosion. However, it flashes and explodes with toxic gas caused by decomposition if there is an ignition source of high energy and it is composed by the gas of high concentration of oxygen.

Special protective precautions and equipment for fire fighters: No Data Available

Flammability Conditions: Non flammable.

Additional Information: Hazchem Code : 2[Z]

Section 6 - Accidental Release Measures

Emergency procedures: Take necessary measures with protectors on without fail. When the liquid flows from the broken drum or oilcan. Place it with the broken part upside and move it outside with good ventilation. Then empty them into container. When it spilled over indoors.

Methods and materials for containment and clean up: Wipe off with waste clothes immediately. Absorb the liquid with flew out with activated carbon or dry sand to prevent it penetrating into sewers. Waterourses or underground at the same time not to wash away into the public water area.

Section 7 - Handling and Storage

Precautions for safe handling: Ensure an eye bath and safety shower are available and ready for use.

Conditions for safe storage, including any incompatibles: Ventilate the working place adequately and remove the exhaust gas as much as possible with activated carbon and etc. Vapor is decomposed with generation of toxic gases such as chlorine, hydrogen chloride, carbon monoxide, phosgene under the exposure to the high temperature such as naked fire, broiling substances and etc.. So avoid to contact the vapor with such high temperatured substances. Do not generate the vapor unnecessarily to avoid leakage, flood and scattering. Put on the applicable protector according to the situation for handling the liquid. When storing in containers such as drum, oilcan, it is desirable to store them in such place as to be able to shut out rain and direct sunlight with good ventilation. When storing outdoors, take some measures such as covering and roofing the container. When storing indoors, install the applicable exhauster and keep it under the controled temperature. Protect the floor to aboid the percolation into the public water and sewerage, and the penetration into the underground in case of leakage by any chance.

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Section 8 - Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

ASCC Exposure Limits	**TWA (mg/m^3)**	**STEL (mg/m^3)**
Perchloroethylene	340	1020

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels. If necessary, use a fan.

Eye Protection: Eye protection such as protective glasses or goggles is recommended when this product is being used.

Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: Viton, nitrile.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Safety deluge showers should, if practical, be provided near to where this product is being used.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Clear, colourless liquid.
Odour:	Ether-like odour
Boiling Point:	121°C at 100kPa (Perchloroethylene)
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	Completely volatile at 100°C.
Vapour Pressure:	No data.
Vapour Density:	No data.
Specific Gravity:	1.62 at 22°C (Perchloroethylene)
Water Solubility:	Negligible.
pH:	No data.
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Autoignition temp:	No data.

Section 10 - Stability and Reactivity

Chemical Stability: STABLE.

Conditions to Avoid: No Data

Incompatible Materials: No Data

Hazardous Decomposition Products: No Data

Fire Decomposition: Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Harardous Reactions: No Data

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Toxicity Data: Stimulativity: Skin - Rabbit = 500 mg/24hrs Light (Standard Draize Test) - Rabbit = 810 mg/24hrs Heavy (Standard Draize Test) Eye - Rabbit = 500 mg/24hrs Light (Standard Draize Test) Acute Toxicity: Oral- Rat LD50 - 2,629 mg/kg - Mouse LD50 - 8,100 mg/kg Inhalation - Rat LC50 - 34,200mg/m3/8hr - Mouse LC50 - 5,200 ppm/4hr Mutagenic: Salmonella, slight positive in the rat embryo.

Health Effects - Acute

Swallowed: The vapour has narcotic effect and causes the liver and the kidney lesion. The symptom of stimulating gastrointestinal tract such as feelingness of sick, vomit and diarrhea with hemafecia at the initial stage.

Eye: The eye is stimulated in contact with the liquid. It causes inflammation of the eyewith tears and burning pain.

Skin: The contact of the liquid to the skin causes only light stimulation but the repetitive and long-term contact to the skin causes only light stimulation but the repetitive and long-term contact to the skin removes the skin fat and causes dermatitis.

Inhaled: The inhalation of a large amount of vapor in a short time causes acute toxicity. The initial symptoms starts with the stimulative feeling to the eye, the nose and the throat, followed by headache, dizziness, stupefaction, feelingness of sick and vomit. The patient may lose consciousness and fall down.

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Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Perchloroethylene	Conc>=1%: Xn; R40

Section 12 - Ecological Information

Toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment. Chlorinated solvents have a relatively short life-time in the atmosphere. Perchloroethylene and trichloroethylene display very slow biodegradation and responsible end-users will be very careful to avoid spillages.

Section 13 - Disposal Considerations

Disposal: There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. The Hierarchy of Controls seems to be common - the user should investigate: Reduce, Reuse, and Recycle and only if all else fails should disposal be considered. Note that properties of a product may change in use, so that the following suggestions may not always be appropriate. The following may help you in properly addressing this matter for this product. This product may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. If neither of these options is suitable, consider controlled incineration, or landfill.

Section 14 - Transport Information

ADG Code	1897
Hazchem Code	2 [Z]
Shipping Name	TETRACHLOROETHYLENE
Dangerous Goods Class	6.1
Subsidiary Risk	None Allocated
Packaging Group	III
Precaution for User	HARMFUL; DANGEROUS FOR THE ENVIRONMENT

Section 15 - Regulatory Information

AICS Name	ETHENE, TETRACHLORO-
Poisons Schedule	6
EPG	37

Section 16 - Other Information

This MSDS contains only safety-related information. For other data see product literature.

Acronyms:

ADG Cod	Australian Code for the Transport of Dangerous Goods by Road and Rail
AICS	Australian Inventory of Chemical Substances
ASCC	Office of the Australian Safety and Compensation Council
CAS Number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R- Phrase	Risk Phrase
SUSDP	Standard for the Uniform Scheduling of Drugs & Poisons
UN Number	United Nations Number

THIS MSDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS MSDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This MSDS is prepared in accord with the ASCC document “National Code of Practice for the Preparation of Material Safety Data Sheets” 2nd Edition [NOHSC:2011(2003)]

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