

Work safe Report - Carbon Tetrachloride

Date last Edited 4th March 1998

Date Printed 9th October 1998.

According to the Chem Alert Colour Rating System, this product is categorised as AMBER which means it presents a MODERATE risk with normal use.

CLASSIFIED AS HAZARDOUS ACCORDING TO WORKSAFE AUSTRALIA CRITERIA.

COMPANY DETAILS

Product Manufactured by:

FAULDING, FH, & CO LTD.

493 Abernethy Road, Kewdale WA 6105

Product Name: CARBON TETRACHLORIDE – Other names: SENZIFORM, CARBON CHLORIDE, CARBON CHLORIDE, FREON 10, HALON 1040, METHANE TETRACHLORIDE, R 10 (REFRIGERANT), TETRACHLOROMETHANE, TETRASOL, PERCHLOROMETHANE.

UN Number: 1848

Dangerous Goods Class: 6,1

Subsidiary/Tertiary Risk: None Allocated

Hazchem Code: 2Z

Poison Schedule Number: 7

Packaging Group: II

Use (s): DEGREASING AGENT, FIRE EXTINGUISHER.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance: COLOURLESS LIQUID

Odour: ETHER-LIKE ODOUR

Flammability: NON FLAMMABLE

Flash Point: NOT RELEVANT

Boiling Point: 76.7c

Melting Point: -23c

Exposure Standard: 0.1 ppm Carbon Tetra.

Evaporation Rate: NOT AVAILABLE

pH: NOT AVAILABLE

% Volatiles: NOT AVAILABLE

Specific Gravity: 1.589

Solubility: 0.5 g/l

Vapour Pressure: 91 torr at 20c

Upper Explosion Limit: NOT RELEVANT

Lower Explosion Limit: NOT RELEVANT

INGREDIENTS

Ingredient – CARBON TETRACHLORIDE. Concentration >60% CAS Number 56-23-5.

HEALTH STANDARDS

Health Hazard Summary:

Toxic – narcotic. Use safe work practices to avoid eye-skin contact and vapour inhalation. Over exposure may result in nerve, kidney, liver and lung damage. This product is classified as a possible human carcinogen (IARC 2B)

Eye:

Irritant. Contact may result in lacrimation, irritation, pain, redness and conjunctivitis, Prolonged contact – corneal burns and possible permanent damage.

Inhalation:

Toxic – irritant – narcotic. Over exposure may result in upper respiratory tract irritation, nausea and headache. High levels; dizziness, breathing difficulties, anaesthesia, cardiac arrhythmias, pulmonary oedema and unconsciousness. Chronic exposure may result in liver, kidney and nerve damage.

Skin:

Irritant – toxic. Prolonged contact may result in drying and defatting of the skin, rash and dermatitis. Toxic effects may result from skin absorption.

Ingestion:

Toxic. Ingestion may result in nausea, vomiting, abdominal pain, dizziness, fatigue and diarrhoea. Large doses may cause kidney and liver damage, unconsciousness and convulsions. Aspiration into lungs may cause chemical pneumonitis and pulmonary oedema.

PRECAUTIONS

Flammability:

Non Flammable. May evolve toxic gases (chlorides, hydrogen chloride, phosgene, carbon oxides) when heated decomposition.

Reactivity:

Incompatible with oxidising agents (eg. Hypochlorites, peroxides), acids (eg. Nitric acid), alkalis, heat and ignition sources. Will attack most plastics. Other incompatibilities; dinitrogen tetroxide, potassium tart-butoxide and di/tri/tetra, potassium, potassium/sodium alloy, lithium, sodium, and zinc). Forms explosive mixtures with oxidising agents (eg, calcium hypochlorite), violent reaction with fluorine, and explosive reaction with ethylene at 25-105c, 30-80 bar, potentially explosive with boranes.

Ventilation:

Do not inhale vapours. Use in well ventilated areas. In poorly ventilated areas, mechanical explosion proof extraction ventilation is recommended.

PERSONAL PROTECTIVE EQUIPMENT

PPE:

Wear coveralls, splash-proof goggles, a Type A (Organic vapour) respirator and PVA or viton gloves, If spraying use a Type A-Class P1 (Organic vapour, Particulate) respirator and rubber boots, In confined, poorly ventilated areas, with prolonged use, wear a Full-face Air-line respirator.

EMERGENCY

Spillage:

If spilt (bulk), contact emergency services where appropriate. Wear splash-proof goggles, PVA/Viton gloves, a Type A (Organic vapour) respirator (or Air-line respirator in poorly ventilated areas), coveralls and boots. Ventilate a clear area of all unprotected personnel. Eliminate all heat and ignition sources, Absorb spill with sand or similar collect and place in sealable containers for disposal.

Fire & Explosion:

Non Flammable. Evacuate area and contact emergency services. Toxic gases (chlorides, phosgene, carbon oxides, and hydrocarbons) may be evolved when heated. Remain upwind and notify those downwind of hazard. Wear protective equipment including Self-Contained Breathing Apparatus (SCBA) when combating fire. Use water for cool intact containers and nearby areas.

Extinguishing:

Dry agent, carbon dioxide or foam. Prevent contamination of drains or waterways. Absorb runoff with sand or similar.

FIRST AID

Eye:

Flush gently with running water, holding eyelids open for 15-minute period. Seek immediate medical attention.

Inhalation:

Leave area of exposure, if symptoms develop, seek urgent medical attention. If assisting a victim, avoid becoming a casualty; wear a Full-face type A (Organic vapour) respirator (or Full-face Air-line respirator in poorly ventilated areas). If victim not breathing, apply artificial respiration and seek urgent medical attention.

Skin:

Remove contaminated clothing and gently flush affected areas with soap and water. Seek medical attention if irritation develops. Launder clothing before reuse.

Ingestion:

If poisoning occurs, contact a Doctor or Poisons Information Centre on 13 11 26 (Australia Wide). If more than 15 minutes from a hospital induce vomiting, preferably using Ipecac Syrup APF, SEEK URGENT MEDICAL ATTENTION.

SAFE HANDLING

Storage:

Store tightly sealed in cool, dry, well ventilated area, removed from oxidising agents, acids, alkalis, direct sunlight, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from Physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should be bunded and have appropriate fire protection and ventilation systems.

Waste disposal:

OZONE DEPLETING substance – do not send to landfill. Ensure product is transported to approved incineration facility equipped with after burner and scrubber for disposal. Contact risk management Technologies on (080 9322 1711 for additional information. Prevent contamination of drains and waterways as environmental damage may result.

Transport:

Class 6,1 Poison. Do not transport with chemicals of class: 1 (Explosives), 3 (flammable liquids), 5.1 (oxidising agents), 5.2 (Organic peroxides), 8 (Corrosives – where the corrosive is an acid and the Poison is a cyanide) and foodstuffs.

ADDITIONAL INFORMATION

RISK AND SAFETY PHRASES

Risk and Safety Phrases are standardised phrases published by Worksafe Australia, which are used to describe the risks to health of particular chemicals and measures to control those risks. They are required on labels for hazardous substances under the national Code of Practice for Labelling of Workplace substances [NOHSC: 2012].

R23/24/25 toxic by inhalation, in contact with skin and if swallowed;

R40 Possible risk of irreversible effects.

R48 Danger of serious damage to health by prolonged exposure;

S23 Do not breathe gas/fumes/vapour/spray (where applicable);

S36/37 Wear suitable protective clothing and gloves; and

S44 If you feel unwell, contact a doctor or Poisons Information Centre immediately (show label where possible).

HAG PHRASES

HAG stands for Hazmat Action Guide. HAG phrases describe in simple terms the hazard associated with chemical products and the appropriate action to take in the event of an emergency involving the product. HAG phrases are commonly used by emergency services.

(32) Harmful

(51) Does not mix with water

(62) Avoid personal/skin contact

(80) Fire fighting: Does not burn.

(9) Form: Liquid.

ADDITIONAL INFORMATION FOR: CARBON TETRACHLORIDE

Concentration in this product: .60%

HEALTH HAZARDS – EYE

Irritant, Prolonged contact may result in burns and damage. Toxic systemic effects may include changes to vision.

HEALTH HAZARD – SKIN

Prolonged and repeated contact may result in a dry, scaly, red, fissured dermatitis. Skin absorption may result in toxic systemic effects-symptoms as for inhalation.

LD50 (Skin) : 5070 mg/kg (rat)

HEALTH HAZARDS – HEALTH HAZARD SUMMARY

Human systemic effects via inhalation and ingestion may include; nausea or vomiting, pupillary constriction, coma, anti-psychotic effects, tremors, somnolence, anorexia, respiratory and gastrointestinal system effects. Exposure to low levels, insufficient to produce unconsciousness, usually results in severe gastrointestinal upset and may progress to liver and kidney damage. Marked variation in individual susceptibility, although alcoholism and previous liver or kidney damage may render an individual more susceptible. Reported to cause polyneuritis (nerve-inflammation), possible nerve damage, and other neurological effects, narrowing of visual fields, jaundice.

NOTE: Ozone depleting substance, which is not to be manufactured after 1955 (Australia).

HEALTH HAZARDS – INHALATION

Classified as possibly carcinogenic to humans (IARC Group 2B). Experimental tumorigen, teratogen and mutagen. Narcotic; symptoms at high vapour levels include drowsiness, coma, convulsions, severe liver/kidney/lung damage respiratory or circulatory collapse, possible death due to latter effect.

TWA: 0.1 ppm (0.83 mg/m³)

STEL: 25 ppm/30 mins

IDLH: (inhalation) : 300 ppm

TCLo: (Inhalation) 20 ppm (human - nausea)

LCLo (Inhalation) 1000 ppm (human)

LC50 (Inhalation) 8000 ppm/4H (rat)

Odour threshold: 50 ppm (ethereal odour – poor warning properties)

HEALTH HAZARDS – INGESTION

Highly toxic-symptoms as for inhalation. Large doses may result in anaesthesia, unconsciousness, coma and death due to respiratory paralysis.

TDLo: (Ingestion) : 1700 mg/kg (man – tremors)

LDLo: (Ingestion) : 43 mg/kg (human)

LD50: (Ingestion) : 2800 mg/kg (rat)

ADDITIONAL SAFE HANDLING INFORMATION

IARC – GROUP 2B – POSSIBLE HUMAN CARCINOGEN. This product contains an ingredient which has demonstrated sufficient evidence to have been classified by the International Agency for Research into Cancer (IARC) as possibly carcinogenic to humans and whose use should be strictly monitored and controlled.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure, if respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

OZONE DEPLETING SUBSTANCES: It is an offence (EPA) to distribute and manufacture the following identified ozone depleting substances: 1,1,1-trichloroethane, carbon tetrachloride, CFCs – 11, 12, 13, 111, 112, 113, 114, 115, 211, 212, 213, 214, 215, 216 & 217, CFCs-21, 22, 31, 122, 123, 124, 131, 133, 141, 141b, 142, 142b, 151, 221, 222, 223, 224, 225, 225ca, 225cb, 226, 231, 232, 233, 234, 235, 241, 242, 243, 244, 251, 252, 253, 261, 262 & 271. HALONS –1211, 1311, 114 & 115.

ABBREVIATIONS: mg/m³ – Milligrams per cubic metre, ppm – Parts Per Million, TWA/ES – Time Weighted Average or Exposure Standard, pH –relates to hydrogen ion concentration – this value will relate to a scale of 0 – 14, where 0 is highly acidic and 14 is highly alkaline. CAS# - Chemical Abstract Service number – used to uniquely identify chemical compounds, m – moles per litre, a unit of concentration and IARC – International Agency for Research on Cancer.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES: The recommendation for protective equipment contained within this Chem Alert Report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration, and the availability of engineering controls should be considered before final selection of personal, protective equipment is made. Information provided by risk Management Technologies is summarised for ease of use. Additional technical information is available by calling (08) 9322 1711.

HEALTH EFFECTS FROM EXPOSURE: It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment; method of application and whether the product is to be used indoors or outdoors. Given that it is impractical to prepare a Chem Alert report, which would encompass all possible scenarios, it is anticipated that users will assess contributing risk factors and apply suitable control National Safety Council of Australia methods where appropriate.

This information constitutes expert information, as defined by Worksafe, and is designed to assist you in using this product safely. Copyright 1983-1996 RMT.

National Safety Council of Australia