

This product safety summary is intended to provide a general overview of the chemical substance in the context of ICCA global product strategy. It is not intended to provide emergency response, medical or treatment information nor to provide an overview of all safety and health information. This summary is not intended to replace the Safety Data Sheet. For detailed guidance on the use or regulatory status of this substance, please consult the Safety Data Sheet.

A. CHEMICAL PRODUCT IDENTIFICATION:

Product Name	Carbon tetrachloride
Synonyms	Tetrachloromethane
IUPAC Name	Tetrachloromethane
CAS NO	56-23-5
E C No	200-262-8
Molecular Formula	CCl ₄

B. USES AND APPLICATIONS:

The use of carbon tetrachloride in consumer products is banned by the Consumer Product Safety Commission (CPSC), under the Federal Hazardous Substance Act (FHSA) 16 CFR 1500.17.

Although carbon tetrachloride is used for some chemical process reactions today, prior to the Montreal Protocol large quantities of carbon tetrachloride were used to produce the Refrigerants R-11 (trichlorofluoromethane) and R-12 (dichlorodifluoromethane). However, these refrigerants are believed to play a role in ozone depletion and have been phased out. Carbon tetrachloride is tightly controlled under the Montreal Protocol as an ozone-depleting substance (ODS). As a result of the Montreal Protocol and the Clean Air Act, most uses of this and other ODSs were banned in developed economies around the world in 1995. Currently, carbon tetrachloride is used as a raw material or processing agent for the manufacture of other chemicals and products.

C. PHYSICAL / CHEMICAL PROPERTIES:

Properties	Value
Physical state and appearance	Colorless Liquid
Odor	Sweetish
Molecular Weight	153.82 g/mol

Color:	Colorless
Boiling Point	76.8°C / 170.24 °F
Melting Point / Range	-22.62°C / -8.72°F
Flash Point	No information available
Specific Gravity	1.59 at 20°C
Critical Temperature	No information available
Relative Density	1.59 at 20°C
Vapor Pressure	15.2 kPa at 25°C
Vapor Density	No information available
Volatility	No information available
Odor Threshold	No information available
Partition Coefficient	2.83
Water Solubility	846.1 mg/L
Explosive/oxidising properties	No information available

D. HEALTH EFFECTS:

Effect	Value
Acute Toxicity Oral / dermal / inhalation	ORAL LD50: 2500 mg/kg DERMAL LD50: >2000 mg/kg INHALATION LC50: 8000 ppm Based on available information, According to GHS product is classified as Acutely Toxic.
Irritation / corrosion Skin / eye/ respiratory tract	Causes mild irritation if came in contact with eye and skin.
Sensitisation	Slightly skin sensitisation effect.
Toxicity after repeated exposure Oral / inhalation / dermal	Causes damage to organs through prolonged or repeated exposure – Liver, kidney.
Genotoxicity / Mutagenicity	No information available
Carcinogenicity	Suspected of causing cancer IARC: 2B - Group 2B: Possibly carcinogenic to humans
Toxicity for reproduction	No information available

E. ENVIRONMENTAL EFFECTS:

Effect Assessment	Value
Aquatic Toxicity	<p>Toxicity to Fish LC50: 24.3 mg/L Toxicity to aquatic Invertebrate EC50: 35 mg/L Toxicity to Algae EC50: 20 mg/L</p> <p>Based on available information, According to GHS product is classified for Aquatic Toxicity.</p>

Fate and behavior	Value
Degradation/Persistence	Persistence is unlikely to based on available information.
Bio-accumulation	<p>Bio-concentration factor (BCF): 30 Carbon tetrachloride does not have significant bio-accumulative potential.</p>
PBT/vPvB conclusion	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

*: Persistent, Bio accumulative and Toxic (PBT)

**: very Persistent and very Bio accumulative (vPvB)

F. EXPOSURE :

Human health	
Consumers	The use of carbon tetrachloride in consumer products is banned by CPSC under federal law (FHSA).
Workers	Exposure could occur in the manufacturing facility or in industrial facilities that use carbon tetrachloride. However, manufacturing and industrial facilities are subject to stringent EPA regulations that limit emissions. Exposures could occur by inhalation of vapors or by skin contact. Carbon tetrachloride is used in closed systems in manufacturing processes to minimize exposures. In addition, good industrial hygiene practices and personal protective equipment minimize the risk of exposure.

Environment

If released to land, carbon tetrachloride is expected to evaporate rapidly from soil due to its high vapor pressure. It is highly mobile in soil, and it may travel to underground water sources. Volatilization from moist soil surfaces into the air is expected to be an important process.

If released to surface water, its primary loss will be by volatilization. The volatilization half-life for a model river is 3.7 hours. Adsorption to suspended solids and sediment is not expected.

If released to air, carbon tetrachloride will exist as a vapor in the atmosphere. It is stable in the troposphere with a residence time of 30 to 50 years. It is subject to photolysis in the stratosphere and considered an ODS.

G. RISK MANAGEMENT MEASURES

Effect	Value
Eyes	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.
Skin protection	Wash off immediately with soap and plenty of water for at least for 15 minutes. Take off contaminated clothing and wash before reuse. Seek immediate medical attention/advice.
Ingestion	Do NOT induce vomiting. Rinse mouth immediately and drink large quantities of water. Never give anything by mouth to an unconscious person.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Seek immediate medical attention.

H. PERSONAL PROTECTIVE EQUIPMENT AND EMERGENCY MEASURES

Effect	Value
Engineering controls	Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to work station. If applicable, use process enclosure, local exhaust ventilation, or other engineering controls to maintain airborne level below recommended exposure limits. If exposure limits have not been established maintain airborne levels to acceptable level.

Special risks , Specific hazards		Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
Personnel Protective equipment	Eye/Face protection	Use tightly sealed safety glasses.
	Skin protection	Impervious long-sleeved clothing. Preventative skin protection is recommended.
	Hand protection	If skin contact is likely, use chemicals protecting gloves compliant to EN 374. - Short term activity (max 15 min): Suited materials: butyl rubber or chloroprene or PVC, thickness: 0.5 mm or better (breakthrough time > 10 min). EVA laminate (breakthrough time > 30 min). - Prolonged activity: Suited materials: fluorinated rubber or PVA, thickness: 0.5 mm or better (breakthrough time > 480 min). nitrile rubber, thickness: 0.5 mm or better (breakthrough time > 240 min)
	Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

I. ACCIDENTAL RELEASE MEASURES



- ✓ Use proper personal protective equipment (pl refer MSDS)
- ✓ Person Precautions: Wear respiratory protection. Avoid breathing vapors, mist or gas.
Ensure adequate ventilation. Evacuate personnel to safe areas.
- ✓ Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- ✓ Spill cleanup measures: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

J. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
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K. CLASSIFICATION AND LABELLING

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the eSDS. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use. Substances registered for REACH are classified according CLP (EC) 1272/2008, implementation of the GHS in the European Union.

Classification H301 H311 H331 H351 H372 H412 H420	Acute Oral Toxicity: Category 3 Acute Dermal Toxicity: Category 3 Acute Inhalation Toxicity: Category 3 Carcinogenicity: Category 2 STOT – Repeated Exposure: Category 1 Chronic Aquatic Toxicity: Category 2 Hazardous to the ozone layer: Category 1
Pictogram	 
Signal Word	Danger
Hazard statements H301 H311 H331 H351 H372 H412 H420	Toxic if swallowed Toxic in contact with skin Toxic if inhaled Suspected of causing cancer Causes damage to organs (liver, kidney) through prolonged or repeated exposure Harmful to aquatic life with long lasting effect Harmful public health and the environment by destroying ozone in upper atmosphere
Precautionary statements P201 P202 P270 P264 P260 P271 P273 P280 P308+P313 P304+P340	Obtain special instruction before use. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke while using this product. Wash face, skin and hands thoroughly after handling. protection/ face protection. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.closed. Wear protective gloves/ protective clothing/ eye protection/ face protection. IF exposed or concerned: Get medical advice attention. IF INHALED: Remove person to fresh air and keep

P301+P310+330	comfortable for breathing.
P302+P352	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.
P361+P364	IF ON SKIN: Wash with plenty of soap and water. Take off immediately all contaminated clothing and wash it before reuse.
P321	Specific treatment (see... on this label)
P312	Call a POISON CENTRE/doctor physician if you feel unwell.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal plant.

L. BASIC TRANSPORT INFORMATION

DOT / TDG/ IATA/ IMDG/IMO	
UN No.	UN1846
Proper shipping Name	Carbon Tetrachloride
Technical name	Carbon Tetrachloride
Hazard Class	6.1
Packaging Group	II
Marine Pollutant	Yes

M. REGULATORY INFORMATION

International Inventories

TSCA	Complies
EINECS/ ELINCS	Complies
DSL/NDL	Complies
PICCS	Complies
ENCS	Complies
IECSC	Complies
AICS	Complies

KECL Complies

Legend

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

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

N. CONCLUSIONS

- ✓ Carbon Tetrachloride is banned from used in consumable product. However, today it's major application is for manufacturing of Refrigerants such as R-11 & R-12.
- ✓ Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.
- ✓ By applying the appropriate Risk Management measures the concentrations to be expected at workplaces and to the general public are below recommended exposure limits

O. CONTACT INFORMATION

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GUJARAT FLUOROCHEMICALS LIMITED
GLOBAL PRODUCT STRATEGY SAFETY SUMMARY
CARBON TETRACHLORIDE

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