



**MATHESON**

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## Safety Data Sheet

**Material Name: CARBON TETRACHLORIDE**

**SDS ID: MAT04310**

### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

**Material Name**

CARBON TETRACHLORIDE

**Synonyms**

CARBON CHLORIDE (CCl<sub>4</sub>); PERCHLOROMETHANE; TETRACHLOROMETHANE; BENZINOFORM; R 10 (REFRIGERANT); UN 1846; CCl<sub>4</sub>

**Chemical Family**

halogenated, aliphatic

**Product Use**

industrial.

**Restrictions on Use**

None known.

**Details of the supplier of the safety data sheet**

MATHESON TRI-GAS, INC.

150 Allen Road, Suite 302

Basking Ridge, NJ 07920

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

### Section 2 - HAZARDS IDENTIFICATION

**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Skin Corrosion/Irritation - Category 2

Serious Eye Damage/Eye Irritation - Category 2A

Carcinogenicity - Category 2

Reproductive Toxicity - Category 2

Specific target organ toxicity - Single exposure - Category 1

Specific target organ toxicity - Repeated exposure - Category 1

Hazardous to the Aquatic Environment - Acute - Category 2

Hazardous to the Aquatic Environment - Chronic - Category 3

Hazardous to the Ozone Layer - Category 1

**GHS Label Elements**

**Symbol(s)**



**Signal Word**

Danger

**Hazard Statement(s)**

Causes skin irritation.

Causes serious eye irritation.

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

Causes damage to organs. (central nervous system , kidneys , liver )



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Causes damage to organs through prolonged or repeated exposure. (kidneys , liver , lungs , blood , heart , respiratory system )

Toxic to aquatic life.

**Precautionary Statement(s)****Prevention**

Do not breathe vapor or mist.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use Personal Protective equipment as required.

Wear protective gloves and eye/face protection.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Avoid release to the environment.

**Response**

IF exposed.

Call a POISON CENTER or doctor/physician.

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 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.

**Storage**

Store locked up.

**Disposal**

Dispose in accordance with all applicable regulations.

**Statement(s) of Unknown Aquatic Toxicity**

0% of the mixture consists of ingredient(s) of unknown acute aquatic toxicity.

0% of the mixture consists of ingredient(s) of unknown chronic aquatic toxicity.

**Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS**

CAS	Component Name	Percent
56-23-5	CARBON TETRACHLORIDE	100

**Section 4 - FIRST AID MEASURES****Inhalation**

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

**Skin**

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

**Eyes**

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

**Ingestion**

If swallowed, get medical attention.

**Most Important Symptoms/Effects**



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**Acute**

skin irritation, eye irritation, central nervous system damage, kidney damage, liver damage, central nervous system depression

**Delayed**

cancer, reproductive system effects, blood damage, kidney damage, liver damage, heart damage, lung damage, respiratory system damage

**Note to Physicians**

For inhalation, consider oxygen.

### Section 5 - FIRE FIGHTING MEASURES

**Extinguishing Media**

**Suitable Extinguishing Media**

regular dry chemical, carbon dioxide, water spray, Large fires: Use water spray, fog or regular foam.

**Unsuitable Extinguishing Media**

Do not use high-pressure water streams.

**Special Hazards Arising from the Chemical**

Slight fire hazard.

**Hazardous Combustion Products**

Phosgene, halogenated compounds, Oxides of carbon

**Fire Fighting Measures**

Move container from fire area if it can be done without risk. Dike for later disposal. Fight large fires from a protected location or safe distance. Do not get water inside container. Cool containers with water spray until well after the fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. Stay away from the ends of tanks. Do not scatter spilled material with high-pressure water streams. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Use extinguishing agents appropriate for surrounding fire. Flood with fine water spray. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.

**Special Protective Equipment and Precautions for Firefighters**

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

### Section 6 - ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**

Wear personal protective clothing and equipment, see Section 8.

**Methods and Materials for Containment and Cleaning Up**

Avoid heat, flames, sparks and other sources of ignition. Eliminate all ignition sources if safe to do so. Do not touch or walk through spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Prevent entry into waterways, sewers, basements, or confined areas. Do not get water inside container. Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Small dry spills: Move containers away from spill to a safe area. Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

**Environmental Precautions**

Avoid release to the environment.



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**Material Name: CARBON TETRACHLORIDE****SDS ID: MAT04310****Section 7 - HANDLING AND STORAGE****Precautions for Safe Handling**

Do not breathe vapor or mist. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use Personal Protective equipment as required. Wear protective gloves/eye protection/face protection. Wash hands thoroughly after handling. Do not eat, drink, or smoke when using this product. Avoid release to the environment.

**Conditions for Safe Storage, Including any Incompatibilities**

Store locked up.

Store and handle in accordance with all current regulations and standards. Protect from physical damage. Store in a cool, dry place. Store in a well-ventilated area. Keep locked up. Keep container tightly closed. Avoid heat, flames, sparks and other sources of ignition. Keep separated from incompatible substances.

**Incompatible Materials**

combustible materials, metal salts, peroxides, halogens, oxidizing materials, metals, bases, amines

**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION****Component Exposure Limits**

<b>CARBON TETRACHLORIDE</b>	<b>56-23-5</b>
ACGIH:	5 ppm TWA
	10 ppm STEL
	Skin - potential significant contribution to overall exposure by the cutaneous route
NIOSH:	2 ppm STEL 60 min ; 12.6 mg/m3 STEL 60 min
	200 ppm IDLH
OSHA (US):	10 ppm TWA
	25 ppm Ceiling
Mexico:	5 ppm TWA VLE-PPT ; 30 mg/m3 TWA VLE-PPT
	20 ppm STEL [PPT-CT ] ; 126 mg/m3 STEL [PPT-CT ]
	Skin - potential for cutaneous absorption

**ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)**

There are no biological limit values for any of this product's components.

**Engineering Controls**

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

**Individual Protection Measures, such as Personal Protective Equipment****Eye/face protection**

Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.



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**Material Name: CARBON TETRACHLORIDE****SDS ID: MAT04310****Skin Protection**

Wear appropriate chemical resistant clothing.

**Respiratory Protection**

The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. At any detectable concentration -. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Escape -. Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister. Any appropriate escape-type, self-contained breathing apparatus. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

**Glove Recommendations**

Wear appropriate chemical resistant gloves.

**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	clear colorless liquid	<b>Physical State</b>	liquid
<b>Odor</b>	sweet odor ,distinct odor	<b>Color</b>	colorless
<b>Odor Threshold</b>	50 ppm	<b>pH</b>	Not available
<b>Melting Point</b>	-23 °C (-9 °F )	<b>Boiling Point</b>	77 °C (171 °F )
<b>Boiling Point Range</b>	Not available	<b>Freezing point</b>	Not available
<b>Evaporation Rate</b>	12.8 (Butyl acetate = 1 )	<b>Flammability (solid, gas)</b>	Not available
<b>Autoignition Temperature</b>	Not available	<b>Flash Point</b>	(Not flammable )
<b>Lower Explosive Limit</b>	Not available	<b>Decomposition temperature</b>	Not available
<b>Upper Explosive Limit</b>	Not available	<b>Vapor Pressure</b>	91.3 mmHg @ 20 °C
<b>Vapor Density (air=1)</b>	5.32	<b>Specific Gravity (water=1)</b>	1.594 at 20 °C
<b>Water Solubility</b>	0.08 % (@ 20 °C )	<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Viscosity</b>	2.03e-3 Pa.s	<b>Kinematic viscosity</b>	Not available
<b>Solubility (Other)</b>	Not available	<b>Density</b>	Not available
<b>Henry's Law Constant</b>	0.0276 atm-m <sup>3</sup> /mole	<b>KOC</b>	71

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<b>Log KOW</b>	2.83	<b>Physical Form</b>	liquid
<b>Volatility</b>	100 %	<b>Molecular Formula</b>	C-Cl <sub>4</sub>
<b>Molecular Weight</b>	153.82		

**Solvent Solubility****Soluble**

alcohol, Benzene, chloroform, ether, carbon disulfide, petroleum ether, naphtha, acetone, fixed &amp; volatile oils

**Section 10 - STABILITY AND REACTIVITY****Reactivity**

No reactivity hazard is expected.

**Chemical Stability**

Stable at normal temperatures and pressure.

**Possibility of Hazardous Reactions**

Will not polymerize.

**Conditions to Avoid**

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

**Incompatible Materials**

combustible materials, metal salts, peroxides, halogens, oxidizing materials, metals, bases, amines

**Hazardous decomposition products**

Phosgene, halogenated compounds, Oxides of carbon

**Section 11 - TOXICOLOGICAL INFORMATION****Information on Likely Routes of Exposure****Inhalation**

irritation, digestive disorders, headache, drowsiness, dizziness, loss of coordination, visual disturbances, lung congestion, kidney damage, liver damage, Reproductive Effects, effects on the brain, convulsions, coma, cancer

**Skin Contact**

irritation, rash, absorption may occur, digestive disorders, headache, drowsiness, dizziness, loss of coordination, lung congestion, effects on the brain, convulsions, coma, visual disturbances, kidney damage, liver damage, Reproductive Effects, cancer

**Eye Contact**

irritation

**Ingestion**

irritation, digestive disorders, headache, drowsiness, dizziness, loss of coordination, lung congestion, effects on the brain, kidney damage, liver damage, convulsions, coma, cancer

**Acute and Chronic Toxicity****Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

**CARBON TETRACHLORIDE (56-23-5)**

Oral LD50 Rat 2350 mg/kg

Dermal LD50 Rat 5070 mg/kg

Inhalation LC50 Rat 8000 ppm 4 h

**Product Toxicity Data****Acute Toxicity Estimate**

Dermal	> 2000 mg/kg
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Inhalation - Vapor	> 20 mg/L
Oral	> 2000 mg/kg

**Immediate Effects**

skin irritation, eye irritation, central nervous system damage, kidney damage, liver damage, central nervous system depression

**Delayed Effects**

cancer, reproductive system effects, blood damage, kidney damage, liver damage, heart damage, lung damage, respiratory system damage

**Irritation/Corrosivity Data**

skin irritation, eye irritation

**Respiratory Sensitization**

No data available.

**Dermal Sensitization**

No data available.

**Component Carcinogenicity**

<b>CARBON TETRACHLORIDE</b>	<b>56-23-5</b>
ACGIH:	A2 - Suspected Human Carcinogen
IARC:	Monograph 71 [1999] ; Supplement 7 [1987] ; Monograph 20 [1979] (Group 2B (possibly carcinogenic to humans))
NTP:	Reasonably Anticipated To Be A Human Carcinogen
DFG:	Category 4 (no significant contribution to human cancer )
OSHA:	Present
NIOSH:	potential occupational carcinogen

**Germ Cell Mutagenicity**

No data available.

**Tumorigenic Data**

No data available

**Reproductive Toxicity**

Available data characterizes components of this product as reproductive hazards.

**Specific Target Organ Toxicity - Single Exposure**

central nervous system, kidneys, liver

**Specific Target Organ Toxicity - Repeated Exposure**

blood, heart, kidneys, liver, lungs, Respiratory system

**Aspiration hazard**

No data available.

**Medical Conditions Aggravated by Exposure**

history of alcoholism, alcoholism

**Additional Data**



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**Material Name: CARBON TETRACHLORIDE****SDS ID: MAT04310**

May cross the placenta. May be excreted in breast milk. Alcohol may enhance the toxic effects. Stimulants such as epinephrine may induce ventricular fibrillation.

### Section 12 - ECOLOGICAL INFORMATION

**Ecotoxicity**

Toxic to aquatic life.

**Component Analysis - Aquatic Toxicity**

<b>CARBON TETRACHLORIDE</b>	<b>56-23-5</b>
Fish:	LC50 96 h Pimephales promelas 36.3 - 47.3 mg/L [flow-through ]; LC50 96 h Pimephales promelas 9.68 - 11.3 mg/L [static ]; LC50 96 h Lepomis macrochirus 23 - 33 mg/L [static ]
Invertebrate:	EC50 48 h Daphnia magna 29 mg/L IUCLID

**Persistence and Degradability**

Not expected to undergo hydrolysis in the environment.

**Bioaccumulative Potential**

Bioconcentration potential in aquatic organisms is low based on a BCF value of 3.2 - 7.4.

**Mobility**

Expected to have high mobility in soil.

### Section 13 - DISPOSAL CONSIDERATIONS

**Disposal Methods**

Dispose in accordance with all applicable regulations. Hazardous Waste Number(s): D019. Dispose of in accordance with U.S. EPA 40 CFR 262 for concentrations at or above the Regulatory level. Regulatory level- 0.5 mg/L.

**Component Waste Numbers**

<b>CARBON TETRACHLORIDE</b>	waste number U211
RCRA:	0.5 mg/l regulatory level

### Section 14 - TRANSPORT INFORMATION

**US DOT Information:**

**Shipping Name:** CARBON TETRACHLORIDE

**Hazard Class:** 6.1

**UN/NA #:** UN1846

**Packing Group:** II

**Required Label(s):** 6.1

Marine pollutant

**IMDG Information:**

**Shipping Name:** CARBON TETRACHLORIDE

**Hazard Class:** 6.1

**UN#:** UN1846

**Packing Group:** II

**Required Label(s):** 6.1

Marine pollutant

**International Bulk Chemical Code**





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This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

<b>CARBON TETRACHLORIDE</b>	<b>56-23-5</b>
IBC Code:	Category Y

### Section 15 - REGULATORY INFORMATION

#### U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

<b>CARBON TETRACHLORIDE</b>	<b>56-23-5</b>
SARA 313:	0.1 % de minimis concentration
CERCLA:	10 lb final RQ ; 4.54 kg final RQ

#### SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories

Carcinogenicity; Reproductive Toxicity; Skin Corrosion/Irritation; Serious Eye Damage/Eye Irritation; Specific Target Organ Toxicity

#### U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
<b>CARBON TETRACHLORIDE</b>	<b>56-23-5</b>	Yes	Yes	Yes	Yes	Yes

**The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):**

**WARNING!** This product contains a chemical known to the state of California to cause cancer

<b>CARBON TETRACHLORIDE</b>	<b>56-23-5</b>
Carc:	carcinogen , 10/1/1987

#### Canada Regulations

#### Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

<b>CARBON TETRACHLORIDE</b>	<b>56-23-5</b>
	0.1 %

#### Component Analysis - Inventory

#### CARBON TETRACHLORIDE (56-23-5)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR KECI - Annex	KR KECI - Annex	KR - REACH CCA	CN	NZ	MX	TW	VN - NCI (Draft)
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							1	2						
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

### Section 16 - OTHER INFORMATION

#### NFPA Ratings

Health: 2 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

#### Summary of Changes

Updated: 05/01/2015

#### Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN NCI (Draft) - Vietnam National Chemicals Inventory (NCI) (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada) .

#### Other Information

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