

SAFETY DATA SHEET



1,1,2,3 - TETRACHLOROPROPENE - TECP (4CPe)

North America EN
SDS No.: M47046

Rev. Date: 28-Mar-2023
Rev. Num. 05

SECTION 1. CHEMICAL PRODUCT / COMPANY IDENTIFICATION

Company Identification: Occidental Chemical Corporation
14555 Dallas Parkway, Suite 400
Dallas, Texas 75254-4300

24-Hour Emergency Telephone Number: 1-800-733-3665 (USA); CANUTEC (Canada): 1-613-996-6666; CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186

To Request an SDS: MSDS@oxy.com or 1-972-404-3245

Customer Service: 1-800-752-5151 or 1-972-404-3700

Product Identifier: 1,1,2,3 - TETRACHLOROPROPENE - TECP (4CPe)

Synonyms: HCC-1230xa; 4CPe; 1123-tetCPe

Product Use: Chemical Intermediate

Uses Advised Against: Any use other than what is identified above.

Chemical Family: Chlorinated Hydrocarbon

SECTION 2. HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

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EMERGENCY OVERVIEW:

Color: Colorless
Physical State: Liquid
Appearance: Clear liquid
Odor: Strong, Characteristic Odor

Signal Word: **DANGER**

MAJOR HEALTH HAZARDS: HARMFUL IF SWALLOWED. FATAL IF INHALED. CAUSES SEVERE SKIN BURNS AND EYE DAMAGE. CAUSES SERIOUS EYE DAMAGE. MAY CAUSE AN ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED AND ENTERS AIRWAYS. MAY CAUSE DAMAGE TO THE LIVER THROUGH PROLONGED OR REPEATED EXPOSURE. SUSPECTED OF CAUSING GENETIC DEFECTS.

PHYSICAL HAZARDS: COMBUSTIBLE LIQUID.

AQUATIC TOXICITY: TOXIC TO AQUATIC LIFE.

PRECAUTIONARY STATEMENTS: Obtain, read, and follow all safety instructions before use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not breathe mist, vapors, or spray. Wash hands and exposed skin and clothing thoroughly after handling. Do not touch eyes. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. In case of inadequate ventilation, wear respiratory protection.

HAZARD CLASSIFICATION:

GHS: PHYSICAL HAZARDS:	Flammable Liquids Category 4: Combustible Liquid
GHS: CONTACT HAZARD - SKIN:	Category 1 - Causes severe skin burns and eye damage
GHS: CONTACT HAZARD - EYE:	Category 1 - Causes serious eye damage
GHS: SENSITIZATION HAZARD:	Skin Sensitizer Category 1 - May cause an allergic skin reaction
GHS: ACUTE TOXICITY - INHALATION:	Category 2 - Fatal if inhaled
GHS: ACUTE TOXICITY - ORAL:	Category 4 - Harmful if swallowed
GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE):	Category 2 - May cause damage to liver through prolonged or repeated exposure
GHS: GERM CELL MUTAGENICITY:	Category 2 - Suspected of causing genetic defects
HAZARDS NOT OTHERWISE CLASSIFIED (HNOC):	- ASPIRATION HAZARD - CATEGORY 2: May be harmful if swallowed and enters airways - AQUATIC TOXICITY - ACUTE: Category 2 (Toxic to aquatic life)

GHS SYMBOL: Skull and Crossbones, Corrosive, Health hazards, Exclamation mark

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GHS SIGNAL WORD: DANGER

GHS HAZARD STATEMENTS:

GHS - Physical Hazard Statement(s)

- Combustible liquid

GHS - Health Hazard Statement(s)

- Harmful if swallowed
- Causes severe skin burns and eye damage
- May cause an allergic skin reaction
- Causes serious eye damage
- Fatal if inhaled
- Suspected of causing genetic defects
- May cause damage to liver through prolonged or repeated exposure when inhaled

Additional Hazards - GHS Hazards Not Otherwise Classified (HNOC):

- ACUTE AQUATIC HAZARD - CATEGORY 2: Toxic to aquatic life
- ASPIRATION HAZARD - CATEGORY 2: May be harmful if swallowed and enters airways

GHS - Precautionary Statement(s) - Prevention

- Obtain, read, and follow all safety instructions before use
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- Do not breathe mist, vapors, or spray
- Wash hands and exposed skin and clothing thoroughly after handling. Do not touch eyes
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Contaminated work clothing should not be allowed out of the workplace
- Avoid release to the environment
- Wear protective gloves/protective clothing/eye protection/face protection/hearing protection
- In case of inadequate ventilation, wear respiratory protection

GHS - Precautionary Statement(s) - Response

- IF SWALLOWED: Get emergency medical help immediately
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes
- IF ON SKIN: Get medical help immediately
- IF ON SKIN: Wash with plenty of water
- If skin irritation or rash occurs: Get medical help
- Specific treatment (see "Notes to Physician" in Section 4 of the SDS)
- Take off contaminated clothing and wash it before reuse
- Wash contaminated clothing before reuse
- IF INHALED: Remove person to fresh air and keep comfortable for breathing
- IF INHALED: Get emergency medical help immediately
- Specific treatment is urgent if inhaled (see First Aid information on product label and/or Section 4 of the SDS)

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- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- IF IN EYES: Get medical help
- IF exposed or concerned, get medical advice
- Get medical help if you feel unwell
- In case of fire: Use carbon dioxide, dry chemical, water or other agent suitable for surrounding fire for extinction

GHS - Precautionary Statement(s) - Storage

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

GHS - Precautionary Statement(s) - Disposal

- Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Health Hazards of Significance Not Mentioned in GHS Classification

- MAY BE HARMFUL IF ABSORBED THROUGH SKIN
- ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE

See Section 11: TOXICOLOGICAL INFORMATION

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Systematic Chemical Name	Common name	CAS Number	Percent [%]
1,1,2,3 - Tetrachloropropene	Tetrachloropropene	TECP (4CPe)	10436-39-2	98-100

SECTION 4. FIRST AID MEASURES

General Advice: If exposed or concerned, or if you feel unwell: Get medical advice/help.

EYE CONTACT: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF IN EYES: Get medical help.

SKIN CONTACT: IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes. IF ON SKIN: Get medical help immediately. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical help. Specific treatment (see "Notes to Physician" in Section 4 of the SDS). Take off contaminated clothing and wash it before reuse.

INHALATION: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF INHALED: Get emergency medical help immediately. Specific treatment is urgent if inhaled (see "Notes to Physician" in Section 4 of the SDS).

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INGESTION: IF SWALLOWED: Get emergency medical help immediately. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Most Important Symptoms/Effects (Acute and Chronic [Delayed]):

Acute Symptoms/Effects:

Eye: Eye Irritation: Exposure to eyes may cause irritation, pain, tearing, redness, swelling, and possible corneal damage. May cause conjunctival redness and edema, and lid redness and edema. Edema may lead to blurred vision. Effects may be more serious with repeated or prolonged contact.

Skin: When this material contacts skin it may cause redness, irritation, itching, burning sensation, rash, hives (acute or delayed contact urticaria), and/or allergic contact dermatitis. This chemical may be significantly absorbed through the skin, causing results similar to ingestion exposures.

Inhalation (Breathing): It may cause irritation of the upper and lower airways, coughing, difficulty breathing (dyspnea), pulmonary edema. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. It may cause central nervous system depression (narcotic effects), which can result in drowsiness, dizziness, incoordination (disequilibrium, ataxia), headache, slurred speech, a variety of other symptoms.

Ingestion (Swallowing): Ingestion is not a likely route of exposure. Exposure by ingestion may cause irritation, nausea, and vomiting. If ingestion occurs, effects may be similar to inhalation.

Chronic (Delayed) Symptoms/Effects:

This material is considered to be a skin sensitizer; after initial skin contact, it may induce an allergic response following additional skin exposures. Suspected mutagen. Prolonged and repeated contact may cause eye damage and blindness, and may cause liver damage.

Target Organ Effects: Liver.

Protection of First-Aiders: Protect yourself by avoiding contact with this material. Avoid contact with skin, eyes and clothing. Do not breathe vapors, mist, or spray. Do not ingest. Use personal protective equipment (PPE). Refer to Section 8 for specific PPE recommendations.

Notes to Physician:

There is no specific antidote. Remove from contaminated environment and provide adequate ventilation and oxygenation. Skin irritation and allergic contact dermatitis have been reported. If allergic dermatitis develops, do not re-expose skin to compound. Follow normal clinical protocols for respiratory irritation, Central Nervous System (CNS) depression, skin irritation, dermatitis, allergic dermatitis. The risk of manifesting allergic skin conditions depends upon the concentration, duration, and frequency of exposure, and is dependent upon repeat exposure.

Interaction with Other Chemicals Which Enhance Toxicity: Combining with other solvents such as alcohol, volatile hydrocarbons, and halogenated hydrocarbons may be additive for central nervous depression effects.

Medical Conditions Aggravated by Exposure: May aggravate preexisting conditions such as eye disorders that decrease tear production or have reduced integrity of the eye; skin disorders that compromise the integrity of the skin; and respiratory conditions including asthma and other breathing disorders. Any condition that can be compromised by halogenated anesthetic agents, such as a liver disorder, or cardiac disorder. Acute intoxication with alcohol or narcotics may be worsened.

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SECTION 5. FIRE FIGHTING MEASURES

Fire Hazard: Combustible Liquid.

Explosive properties: Risk of explosion if heated under confinement. Use water spray to keep containers cool.

Extinguishing Media: Use carbon dioxide, dry chemical, water or other agent suitable for surrounding fire.

Unsuitable Extinguishing Media: Do not use a solid water stream at high pressure if the product is on fire because of the risk of spreading the material in combustion.

Specific Hazards: Combustible material.

Unusual Hazards: Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

Fire Fighting: Consider evacuation of personnel located downwind. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Flood with fine water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Firefighters should wear a one piece, total-encapsulating suit of Viton® or butyl coated nylon or equivalent. Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode.

Hazardous Combustion Products: Thermal decomposition can lead to release of irritating gases and vapors;; Hydrogen chloride; Phosgene; Chlorine

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): No information available.

Upper Flammability Level (air): No information available.

Flash point: 63 (°C)

Auto-ignition Temperature: Not determined

GHS: PHYSICAL HAZARDS:

- Flammable Liquids Category 4: Combustible Liquid

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep unnecessary and unprotected persons away. Isolate hazard area and deny entry. Evacuation of surrounding area may be necessary for large spills. Shut off ventilation systems to occupied areas

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where they can be impacted by vapors picked up by the intake systems. Do not get in eyes, on skin or on clothing. Do not breathe vapors, mist, or spray. Ventilate closed spaces before entering. Most vapors are heavier than air and will spread along ground and collect in low or confined areas (drains, basements, tanks). Wear appropriate personal protective equipment recommended in Section 8, Exposure Controls / Personal Protection, of the SDS.

Personal Protective Equipment: See Section 8 for information on personal protective equipment. Cleanup personnel must wear proper protective equipment. Wear protective gloves, protective clothing, eye, and face protection. In case of inadequate ventilation wear respiratory protection. For Unknown Concentrations or exposures above IDLH (Immediately Dangerous to Life or Health) - Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

Emergency Procedures: For other than minor leaks, immediately implement the facility's predetermined emergency response plan. Evacuate unnecessary personnel and eliminate all sources of ignition. Stop leak, if possible, without personal risk. Shut off ventilation systems to occupied areas where they can be impacted by vapors picked up by the intake systems.

Environmental Precautions: Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system. Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

Methods and Materials for Clean-up

Recovery: In case of spill or leak, stop the leak as soon as possible. Completely contain spilled material with dikes, sandbags, etc. Shut off ventilation systems to occupied areas where they can be impacted by vapors picked up by the intake systems. Recovery of product from large spills should be performed with explosion-proof pumps or properly rated vacuum trucks.

Neutralization: If necessary, mix with inert material to absorb liquids, collect with a shovel and deposit in appropriate containers.

Final Disposal: For waste disposal, see section 13.

SECTION 7. HANDLING AND STORAGE

Handling:

Precautions for Safe Handling: Obtain, read and follow all safety instructions before use. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from excessive heat and high energy sources such as ultraviolet light and welding arcs. Avoid release to the environment. Use only in well-ventilated areas.

Technical measures/precautions: Chlorinated organics handling / metering equipment must not be constructed of any reactive metals such as aluminum, zinc, brass, or magnesium alloys.

Prevention of contact: Wear protective gloves, protective clothing, eye, and face protection. In case of inadequate ventilation, wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. Do not breathe mist, vapors, or spray. Wash hands and exposed skin clothing thoroughly after handling. Do not touch eyes. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.

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Storage:

Safe Storage Conditions: Store and handle in accordance with all current regulations and standards. Consult local fire codes. Store in a cool, dry, well ventilated area. Keep container tightly closed and properly labeled. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

Technical measures: Chlorinated organics and the vapors should always be contained in suitably designed tanks and pipes constructed of compatible materials that have been well maintained and in good condition. Secondary containment should be designed with compatible materials that can hold 110% of the largest expected amount of stored product. Aluminum, non-compatible plastics, or fiberglass reinforced plastic are prohibited for use in chlorinated organic service. For more information about incompatible products or storage requirements, please contact the OxyChem Technical Service Group at OxyChem_Tech_Service@oxy.com.

Incompatible Substances: Oxidizing agents. Acids. Bases.

GHS: PHYSICAL HAZARDS:

- Flammable Liquids Category 4: Combustible Liquid

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**REGULATORY EXPOSURE LIMIT(S):**

This product does not contain any components that have regulatory occupational exposure limits (OEL's).

NON-REGULATORY EXPOSURE LIMIT(S):

This product does not contain any components that have advisory (non-regulatory) occupational exposure limits (OEL's); however, the manufacturer has established internal Recommended Exposure Level(s) [REL(s)] as noted below.

Recommended Exposure Limits (REL's) are non-regulatory occupational exposure limits the manufacturer has established based on health effects data.

Component	OXY REL 8 hr TWA	OXY REL STEL	OXY REL Ceiling
1,1,2,3 - Tetrachloropropene 10436-39-2	0.15 mg/m ³ (0.02 ppm)	1.5 mg/m ³ (0.2 ppm)	-----

ENGINEERING CONTROLS: Use only in well-ventilated areas. Provide local exhaust ventilation where vapors, mist, spray, or aerosols may be generated. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear safety glasses with side-shields. Wear chemical safety goggles with a face shield to protect against eye and skin contact when appropriate. Provide an emergency eyewash fountain and quick drench shower in the immediate work area.

Skin and Body Protection: Wear chemical resistant clothing and footwear to prevent skin contact. Chlorinated organics resistant boots, jackets, pants, headgear and full-face protection should be worn where splashing is a possibility. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods. No

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permeation or degradation test data is available for this material. Consult PPE manufacturer for assistance in the selection of an appropriate type of protective clothing.

Hand Protection: Wear appropriate chemical resistant gloves. No permeation or degradation test data is available for this material. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove. Care must be taken not to contaminate bare hands when removing gloves.

Respiratory Protection: When exposure limits may be exceeded, wear respiratory equipment as per U.S. OSHA 29 CFR 1910.134, ANSI Z88.2 and good Industrial Hygiene practice. Organic vapor cartridges may be appropriate under certain conditions. A full facepiece air-purifying respirator may be used in concentrations up to 50X the acceptable exposure level. Where engineering controls are not adequate in eliminating exposure, or for spills and/or emergencies, a NIOSH approved self-contained breathing apparatus or airline respirator, with full face piece and operated in the pressure demand mode is required. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Other Protective Equipment: An emergency eyewash fountain and quick drench shower is recommended to be provided in the immediate work area.

HYGIENE MEASURES: Good hygiene practices include but are not limited to wearing suitable chemical resistant gloves; eye protection; washing hands and affected skin immediately after handling, before breaks, and at the end of the workday; regularly cleaning work area and clothing; etc.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Colorless
Odor:	Strong Characteristic Odor
pH:	No data available
Melting Point/Range:	-16.8 (°C)
Freezing Point/Range:	No data available
Boiling Point °C	167 °C
Flash point:	63 (°C)
Evaporation Rate (ether=1):	No data available
Flammability (solid, gas):	Not applicable
Lower Flammability Level (air):	No information available.
Upper Flammability Level (air):	No information available.
Explosive properties:	Not applicable
Vapor Pressure:	2.68 mmHg
Water Solubility:	0.00186 mol/L
Vapor Density (air=1):	Greater than 1
Relative Density/Specific Gravity (water=1):	1.5498 @ 20 °C
Partition Coefficient (n-octanol/water):	Log Kow = 3.12
Auto-ignition Temperature:	Not determined
Decomposition Temperature:	No data available

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Viscosity:	No data available
Dynamic viscosity:	1.14 cP
Kinematic viscosity	1.14 mPas / 1.50 g/m ³ = 0.76 mm ² /s
Molecular Weight:	179.85

Other Information

Molecular Formula:	C3-H2-Cl4
Chemical Family:	Chlorinated Hydrocarbon
Density:	12.92 lbs/gal @ 20 °C
Volatility:	No data available
Surface tension:	35.4 dyn/cm (Predicted)

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal temperatures and pressures.

Reactivity: Not reactive under normal temperatures and pressures.

Possibility of Hazardous Reactions: Avoid heat, flames, sparks, and other sources of ignition.

Conditions to Avoid (e.g., static discharge, shock, or vibration): None known.

Incompatible Substances: Oxidizing agents. Acids. Bases.

Hazardous Decomposition Products: Hydrogen chloride gas, Phosgene, Chlorine.

Hazardous Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:

ACUTE TOXICITY:

Eye contact: Severe eye irritation. Eye contact may cause irritation, pain, tearing, redness, swelling, and possible corneal damage.

Skin contact: Severe skin irritant. Skin contact may cause irritation and possible burns. May be absorbed through the skin causing results similar to ingestion.

Inhalation: Inhalation exposures may cause respiratory tract irritation, difficulty breathing, coughing, pulmonary edema. May cause Central Nervous System (CNS) depression (narcotic effects). Central Nervous System (CNS) effects are characteristic following inhalation of chlorinated hydrocarbons, and can range from lightheadedness, dizziness, drowsiness in low level exposures to loss of consciousness at high levels of exposure. Inhalation may

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be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Ingestion: Harmful if swallowed. Ingesting this material may cause gastrointestinal irritation, nausea, vomiting, diarrhea.

CHRONIC TOXICITY:

In repeat dose inhalation studies, little systemic toxicity was observed, although irritation of the respiratory system was observed. In a 4-week subchronic inhalation study the NOAEL was <5ppm (based on irritation) whereas no effects were observed at this same concentration in a 13-week study. When administered by the oral route for 4 weeks, TECP caused significant toxicity at dose levels of 100 mg/kg and above. Hepatic necrosis and degeneration were observed at these levels. Liver Toxin (Hepatotoxin).

Chronic Effects: May cause skin sensitization with repeated contact. Suspected of causing genetic defects.

SIGNS AND SYMPTOMS OF EXPOSURE:

No human data is reported, and the symptom information is inferred from animal studies. No specific treatments have been identified.

Inhalation (Breathing): It may cause irritation of the upper and lower airways, coughing, difficulty breathing (dyspnea), pulmonary edema. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. It may cause central nervous system depression (narcotic effects), which can result in drowsiness, dizziness, incoordination (disequilibrium, ataxia), headache, slurred speech, a variety of other symptoms.

Skin: When this material contacts skin it may cause redness, irritation, itching, burning sensation, rash, hives (acute or delayed contact urticaria), and/or allergic contact dermatitis. This chemical may be significantly absorbed through the skin, causing results similar to ingestion exposures.

Eye: Eye Irritation: Exposure to eyes may cause irritation, pain, tearing, redness, swelling, and possible corneal damage. May cause conjunctival redness and edema, and lid redness and edema. Edema may lead to blurred vision. Effects may be more serious with repeated or prolonged contact.

Ingestion (Swallowing): Ingestion is not a likely route of exposure. Exposure by ingestion may cause irritation, nausea, and vomiting. If ingestion occurs, effects may be similar to inhalation.

Interaction with Other Chemicals Which Enhance Toxicity: Combining with other solvents such as alcohol, volatile hydrocarbons, and halogenated hydrocarbons may be additive for central nervous depression effects.

GHS HEALTH HAZARDS:

GHS: CONTACT HAZARD - SKIN: Category 1 - Causes severe skin burns and eye damage

GHS: CONTACT HAZARD - EYE: Category 1 - Causes serious eye damage

GHS: SENSITIZATION HAZARD:

Skin Sensitizer Category 1 - May cause an allergic skin reaction

GHS: ACUTE TOXICITY - ORAL: Category 4 - Harmful if swallowed

GHS: ACUTE TOXICITY - INHALATION: Category 2 - Fatal if inhaled

GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE):

Category 2 - May cause damage to liver through prolonged or repeated exposure

GHS: ASPIRATION HAZARD: Category 2 - May be harmful if swallowed and enters airways

GHS: GERM CELL MUTAGENICITY: Category 2 - Suspected of causing genetic defects

TOXICITY DATA:

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PRODUCT TOXICITY DATA:

LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
620 mg/kg (Rat - males) 700 mg/kg (Rat - females)	2100 mg/kg (Rabbit - males) 2200 mg/kg (Rabbit - females)	1.5 mg/l (4 hr. - Rat)

COMPONENT TOXICITY DATA:

The component toxicity data is populated by the LOLI database and may differ from the product toxicity data given.

Component	Oral LD50	Dermal LD50	Inhalation LC50
1,1,2,3 - Tetrachloropropene 10436-39-2	350 mg/kg (Rat)	No data available	No data available

EYE IRRITATION/CORROSION: Tetrachloropropene (TECP) was placed in the lower conjunctival sac of the right eye of each New Zealand white rabbits (3 males, 3 females) at a dosage level of 0.1 ml (unwashed). All animals exhibited moderate to severe conjunctival irritation; two animals exhibited corneal opacity and/or ulceration; and three animals had iridial damage.

SKIN IRRITATION/CORROSION: Tetrachloropropene (TECP) was evaluated for primary dermal irritation of intact skin of six New Zealand white rabbits at a 4-hr interval under a semi-occlusive patch or at a 24-hr interval under an occlusive patch. Irritation was severe at both sites. Tissue destruction was evident in 5 of the 6 animals at the 4-hour sites, and all 6 animals in the 24-hour sites. Superficial necrosis was observed, and irritation was evident through study termination. TECP is a severe skin irritant.

SKIN ABSORBENT / DERMAL ROUTE: Yes

Acute Toxicity Estimate dermal route is between 2100 mg/kg and 2200 mg/kg.; therefore, this mixture is classified as Category 5 Acute Toxin Dermal (may be harmful in contact with skin).

RESPIRATORY OR SKIN SENSITIZATION: Exposure-related observations in humans do not suggest respiratory sensitization. A skin sensitization local lymph node assay in mice indicates a Stimulation Index (SI) ≥ 3 in 5% and 10% test groups; therefore, considered a skin sensitizer.

CARCINOGENICITY: In a 2-year inhalation study, Tetrachloropropene (TECP) produced what appears to be an increase in leukemia in female rats; however, only for those female rats exposed to the highest concentration level (15 ppm). In the Fischer 344 rat used in the referenced study, the control incidence of the mononuclear cell leukemia (MNCL) in National Toxicology Program studies is about 19-25%. Hence, the control incidence in referenced study is considered to be low, and possibly outside the range for the laboratory that conducted this study. Therefore, if the incidence of MNCL is related to TECP, the effect is not considered to be significant. The NOAEL from that study was 1.5 ppm.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure): No data to support classification.

SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure): Necrotic lesions of the liver were observed in rats at gavage doses of 300 mg/kg for one month.

INHALATION HAZARD: This product is classified as FATAL IF INHALED (Category 2) per GHS criteria.

INGESTION HAZARD: LD50 Acute Toxicity Estimates meet the GHS classification criteria of greater than 300 mg/kg and less than or equal to 2000 mg/kg. Therefore, this mixture is classified as Category 4 Acute Toxin Oral (harmful if swallowed).

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GERM CELL/IN-VITRO MUTAGENICITY: Tetrachloropropene (TECP) was found to be mutagenic, showing dose-related increases in His+ reversion mutations, in the standard Salmonella test. Metabolic activation with a preparation of Aroclor 1254-induced liver homogenate (S9) greatly reduced the mutagenic responses. TECP was mutagenic in Salmonella typhimurium strains TA100 with and without activation and in TA98 with activation. TECP was not mutagenic in Saccharomycete yeast (D4) with and without activation. TECP was not genotoxic in a rat hepatocyte primary culture (HPC)/DNA repair assay or a hepatocyte cytotoxicity study in primary cultures.

REPRODUCTIVE TOXICITY: A group of 10 male and 20 female Sprague-Dawley rats were exposed to Tetrachloropropene (TECP) vapors at target concentrations of 0, 1, or 5 ppm for 6 h/d, 5 d/wk. for a 10-wk pre-mating period, a mating period, and the first 14 d (females only) of gestation. Females were allowed to deliver litters and the offspring were evaluated during a 21-d lactation period. No effects were seen on pup survival, sex distribution, body weights, organ weights, and ratios. A modest reduction in pup body weights was observed following TECP exposure but was attributed to large litter size. No treatment-related effects were seen following necropsy of adults or weanlings, nor were such effects noted following microscopic evaluation of gonads from parental animals.

ASPIRATION HAZARD: Predicted Kinetic Viscosity of ~ 0.76 mm²/s indicates that this product causes concern owing to the presumption that it causes human aspiration toxicity hazard.

TOXICOKINETICS: In the presence of S9 mix all allylic chloropropenes tested exert considerable indirect mutagenic activity which is most pronounced for 1,2,3-trichloropropene. Lower as well as higher chlorinated derivatives are clearly less mutagenic. Longer than standard incubation time (120 min instead of 20 min) at 37 °C always leads to an increase in mutagenic activity. An increase in concentration of rat liver homogenate fraction (S9) in the metabolizing system (S9 mix) enhances mutagenicity only for 1,3-dichloropropene, 2,3-dichloro-1-propene and for the cis isomer of 1,1,2,3-tetrachloro-2-propene. According to the effects of the enzyme inhibitors SKF525, 1,1,1-trichloropropene-2,3-oxide and cyanamide the allylic chloropropenes fall into 3 groups distinguished by their mode of metabolic activation by S9 mix: (a) allyl chloride and 1,3-dichloropropene are hydrolyzed to the corresponding allylic alcohols which can be oxidized to the respective acroleins (hydrolytic-oxidative pathway); (b) 2,3-dichloro-1-propene, 1,1,2,3-tetrachloro-2-propene and hexachloropropene are epoxidized in the C=C double bond, giving rise to reactive epoxides (epoxidative pathway); (c) only 1,2,3-trichloropropene is obviously activated by both these alternative metabolic pathways. Structural parameters like chloro substitution of the central C atom of the C=C-C sequence and substituent induced polarization of the C=C double bond as well as cis/trans isomerism might be responsible for different substrate properties for the enzymes involved in allylic chloropropene metabolism, thus determining different degrees of activation by either one or both pathways.

METABOLISM: See Toxicokinetics above.

ENDOCRINE DISRUPTOR: No endocrine disruption relevant data available.

NEUROTOXICITY: Not Available.

IMMUNOTOXICITY: Not available.

Health Hazards of Significance Not Mentioned in GHS Classification

- MAY BE HARMFUL IF ABSORBED THROUGH SKIN
 - ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE
-

SECTION 12. ECOLOGICAL INFORMATION

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ECOTOXICITY (EC, IC, and LC):

Aquatic Toxicity:

- Acutely toxic to aquatic life

Fish Toxicity:

LC50 Rainbow Trout 1.0 to < 1.8 (48 hours)

LC50 Rainbow trout: 0.93 mg/L (96 hr.)

LC50 Bluegill sunfish: 1.0 mg/L (96 hr.)

Invertebrate Toxicity:

EC50 Daphnia magna: 1.3 mg/L (48 hour)

FATE AND TRANSPORT:

PERSISTENCE: This material is believed not to persist in the environment.

BIODEGRADATION: Biodegradation half-life is predicted to be 5.84 days which indicates that the persistence in the environment is low.

BIOCONCENTRATION: This material is not expected to bioconcentrate in organisms.

BIOACCUMULATIVE POTENTIAL: Predicted BCF of 17.3 to 42.1 and Kow of 3.12 indicates that the product will not bioaccumulate.

MOBILITY IN SOIL: A predicted soil mobility Koc of 129 L/kg indicates Tetrachloropropene (TECP) strongly absorbs onto soil, leading to lower soil mobility and not likely to leach into groundwater.

ADDITIONAL ECOLOGICAL INFORMATION: This material is toxic to aquatic life. No components of this product are on the Montreal Protocol Ozone Depleting (ODP) lists.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from material:

Reuse or reprocess, if possible. Dispose of in accordance with all applicable regulations. Do not contaminate ponds, waterways or ditches with chemical or used container. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. At the time of review, criteria for land treatment or burial (sanitary landfill) disposal practices are subject to significant revision. Prior to implementing land disposal of waste residue (including waste sludge), consult with environmental regulatory agencies for guidance on acceptable disposal practices.

Container Management:

Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

Contaminated Material:

Dispose of as unused product.

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SECTION 14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

UN NUMBER: UN2927
PROPER SHIPPING NAME: Toxic liquid, corrosive, organic n.o.s., (1,1,2,3-Tetrachloropropene)
HAZARD CLASS/ DIVISION: 6.1 (8)
PACKING GROUP: II
LABELING REQUIREMENTS: 6.1 (8)
MARINE POLLUTANT: Marine Pollutant

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

* **NOTE:** Product will not ship via marine vessel.

UN NUMBER: UN2927
SHIPPING NAME: Toxic liquid, corrosive, organic n.o.s., (1,1,2,3-Tetrachloropropene)
CLASS OR DIVISION: 6.1 (8)
PACKING/RISK GROUP: II
LABELING REQUIREMENTS: 6.1 (8)
CAN. MARINE POLLUTANT: Marine Pollutant

MARITIME TRANSPORT (IMO / IMDG)

* **NOTE:** Product will not ship via marine vessel.

MARINE POLLUTANT: Marine Pollutant

AIR TRANSPORT (ICAO / IATA)

Special Instructions CAO: IATA Certificate for shipping personnel is required

SECTION 15. REGULATORY INFORMATION

U.S. REGULATIONS

OSHA REGULATORY STATUS:

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

Not regulated.

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SARA EHS Chemical (40 CFR 355.30)

Not regulated.

Chronic Health Hazard, Acute Health Hazard

SARA HAZARD CATEGORIES ALIGNED WITH GHS (2018):

Health Hazard - Acute Toxin (any route of exposure)
Health Hazard - Skin Corrosion or Irritation
Health Hazard - Sensitizer (Respiratory or Skin)
Health Hazard - Serious eye damage or eye irritation
Health Hazard - Germ Cell Mutagenicity
Health Hazard - Specific Target Organ Toxicity (STOT) Repeat Exposure (RE)
Health Hazard - Aspiration Hazard

EPCRA SECTION 313 (40 CFR 372.65):

Not regulated.

DEPARTMENT OF HOMELAND SECURITY (DHS)- Chemical Facility Anti-Terrorism Standards (6 CFR 27):

No components in this material are regulated under DHS

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):

Not regulated.

EPA'S CLEAN WATER AND CLEAN AIR ACTS:

Component(s) not listed on impacted regulatory lists.

Component	Clean Water Act - Priority Pollutants	CAA - ODS CLASS 1 AND CLASS 2	CAA - Volatile Organic Compounds (VOCs) in SOCM1	CAA - HON Rule - Organic HAPs	CAA - Hazard Air Pollutants	CAA - Urban HAPs List (Integrated Urban Strategy)	SNAP - Substitutes for ODS	EPA RMP Toxic or Flammable TPQ
1,1,2,3 - Tetrachloropropene 10436-39-2 (98-100 %)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

NATIONAL INVENTORY STATUS**U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):**

Component	TSCA Inventory	TSCA ACTIVE LIST	TSCA 12(b)	TSCA/Section 4	TSCA/Section 5	TSCA/Section 6	TSCA/Section 8
1,1,2,3 - Tetrachloropropene 10436-39-2 (98-100 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not Listed	Listed

Canadian Chemical Inventory: All components of this product are listed on either the DSL or the NDSL.

STATE REGULATIONS**California Proposition 65:**

This product is not listed on the California Governor's current list of Carcinogens, Reproductive Toxicants, and/or Candidate Carcinogens (Proposition 65), but it may contain trace amounts of impurities that are listed. For

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additional information, contact Occidental Chemical Corporation Customer Service (1-800-752-5151 or 1-972-404-3700).

Component	U.S. - California - Proposition 65 - Carcinogens List	California Proposition 65 Cancer WARNING:	California Proposition 65 CRT List - Male reproductive toxin:	California Proposition 65 CRT List - Female reproductive toxin:	Massachusetts Right to Know Hazardous Substance List	Rhode Island Right to Know Hazardous Substance List
1,1,2,3 - Tetrachloropropene 10436-39-2 (98-100 %)	Not listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

Component	New Jersey Right to Know Hazardous Substance List	New Jersey Special Health Hazards Substance List	New Jersey - Environmental Hazardous Substance List	Pennsylvania Right to Know Hazardous Substance List	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Environmental Hazard List
1,1,2,3 - Tetrachloropropene	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

CANADIAN REGULATIONS

This material is not listed on the Canadian Domestic Substance List (DSL). This product is listed on the Canadian Non-domestic Substance List (NDSL) which are substances that are not on the DSL but are listed on TSCA inventory in the United States. Substances that are not on the DSL but are listed on the NDSL are subject to new substance notification. This product has been classified in accordance with the hazard criteria of the Workplace Hazardous Materials Information System (WHMIS 2015) which includes the amended Hazardous Products Act (HPA) and the Hazardous Product Regulations (HPR).

Component	Canada - CEPA - Schedule I - List of Toxic Substances	Canada - NPRI	Canada - CEPA - Greenhouse Gases (GHG) Subject to Mandatory Reporting	Canadian Chemical Inventory:	NDSL
1,1,2,3 - Tetrachloropropene 10436-39-2 (98-100)	Not listed	Not Listed	Not Listed	Not Listed	Listed

SECTION 16. OTHER INFORMATION

Prepared by: Occidental Chemical Corporation - HES&S Product Stewardship Department

Rev. Date: 28-Mar-2023

Reason for Revision:

- Scheduled review

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OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Safety Data Sheet available to your employees.

End of Safety Data Sheet