

SAFETY DATA SHEET

M47036 - NA - EN



HCC 240fa

SDS No.: M47036

Rev. Date: 28-Oct-2020

SECTION 1. CHEMICAL PRODUCT AND 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:	HCC 240fa (5CP)
Synonyms:	5CP; 1,1,1,3,3-Pentachloropropane; VFS 8648.50; 240 fa; Propane, 1,1,1,3,3-pentachloro-
Product Use:	Chemical Intermediate for Refrigerant manufacturing
Restrictions on Use (United States):	This product is subject to a Significant New Use Rule (SNUR). This SNUR restricts this product's use to a chemical intermediate.
Other Global Restrictions on Use:	TSCA Inventory, Import/Export (12b) Status.

SECTION 2. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW:

Color: Colorless
Physical State: Liquid
Appearance: Clear
Odor: Slight chlorine odor

Signal Word: **WARNING**

MAJOR HEALTH HAZARDS: CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE IRRITATION. HARMFUL IF SWALLOWED. MAY CAUSE DROWSINESS OR DIZZINESS. MAY CAUSE DAMAGE TO THE LIVER, KIDNEY, AND NASAL EPITHELIUM THROUGH PROLONGED OR REPEATED EXPOSURE.

AQUATIC TOXICITY: TOXIC TO AQUATIC LIFE.

ECOLOGICAL HAZARDS: May adversely affect aquatic life.

PRECAUTIONARY STATEMENTS: Avoid breathing mist, vapors, and/or spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, eye, and face protection. Avoid release to the environment.

ADDITIONAL HAZARD INFORMATION: Acute inhalation exposure can cause central nervous system depression and enhanced cardiac sensitivity to sympathomimetic amines. There is no specific antidote.

HAZARD CLASSIFICATION:

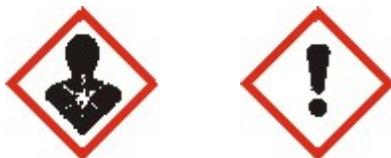
GHS: CONTACT HAZARD - SKIN:	Category 2 - Causes skin irritation
GHS: CONTACT HAZARD - EYE:	Category 2A - Causes serious eye irritation
GHS: ACUTE TOXICITY - ORAL:	Category 4 - Harmful if swallowed
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):	Category 3 - May cause drowsiness or dizziness
GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE):	Category 2 - May cause damage to the liver, kidney, and nasal epithelium through prolonged or repeated exposure
HAZARDS NOT OTHERWISE CLASSIFIED (HNO):	- AQUATIC TOXICITY - ACUTE: Category 2 (Toxic to aquatic life)

GHS SYMBOL: Health hazards, Exclamation mark

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GHS SIGNAL WORD: WARNING

GHS HAZARD STATEMENTS:

GHS - Health Hazard Statement(s) -

- Causes skin irritation
- Causes serious eye irritation
- Harmful if swallowed
- May cause drowsiness or dizziness
- May cause damage to the liver, kidney, and nasal epithelium through prolonged or repeated exposure

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

- ACUTE AQUATIC HAZARD - CATEGORY 2: Toxic to aquatic life

GHS - Precautionary Statement(s) - Prevention

- Do not breathe mist, vapors, or spray
- Wash hands thoroughly after handling
- Do not eat, drink or smoke when using this product
- Use only outdoors or in a well-ventilated area
- Wear protective gloves, protective clothing, eye, and face protection
- Avoid release to the environment

GHS - Precautionary Statement(s) - Response

- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
- Rinse mouth if ingested
- IF ON SKIN: Wash with plenty of water
- If skin irritation occurs: Get medical advice/attention
- Take off contaminated clothing and wash it 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
- IF INHALED: Remove person to fresh air and keep comfortable for breathing
- IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell

GHS - Precautionary Statement(s) - Storage

- Store in a well-ventilated place. Keep container tightly closed
- Store in secure manner

GHS - Precautionary Statement(s) - Disposal

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

See Section 11: TOXICOLOGICAL INFORMATION

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Percent [%]
1,1,1,3,3- Pentachloropropane [5CP]	23153-23-3	99.7 - 100

SECTION 4. FIRST AID MEASURES

INHALATION: Acute exposure may cause dizziness or central nervous system depression. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF INHALED: Call a POISON CENTER or doctor if you feel unwell.

SKIN CONTACT: IF ON SKIN: Wash with plenty of water. IF IRRITATION OCCURS, GET MEDICAL ATTENTION. Take off contaminated clothing and wash before reuse.

EYE CONTACT: 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.

INGESTION: If swallowed, rinse mouth with water (only if the person is conscious). IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Most Important Symptoms/Effects (Acute and Delayed):

Acute Symptoms/Effects:

Inhalation (Breathing): Respiratory System Effects: This chemical behaves as a halogenated anesthetic agent. It may cause irritation of the upper and lower airways. 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: Skin Irritation. Exposure to liquid may cause redness and irritation. This chemical is not significantly absorbed across the skin.

Eye: Eye Irritation: Exposure to eyes may cause irritation, with tearing, redness, or a stinging or burning feeling. 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.

Other Health Effects: Narcotic Effects (Central Nervous System Depression): Ataxia or dizziness, drowsiness or fatigue, loss of consciousness, headache, euphoria and irritability, visual or hearing disturbances, nausea, memory loss.

Delayed Symptoms/Effects:

- Long term skin contact may cause the skin to dry and crack, and to develop a rash
- Repeated and prolonged skin contact may cause dermatitis
- This material was not a skin sensitizer in guinea pig studies
- Effects of eye exposure may become more serious with repeated or prolonged contact

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- Target Organs: Studies in laboratory animals indicate that prolonged exposures to vapors can cause adverse effects on the liver, kidneys, and nasal epithelium

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

Notes to Physician: This material sensitizes the heart to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Remove from contaminated environment and provide adequate ventilation and oxygenation.

Interaction with Other Chemicals Which Enhance Toxicity: Consumption of alcoholic beverages may increase potential for development of toxic effects resulting from exposure to this product. 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.

SECTION 5. FIRE-FIGHTING MEASURES

Fire Hazard: Slight fire hazard. Keep away from open flame or other sources of ignition.

Explosive properties: Not combustible under expected conditions of use.

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire.

Unsuitable Extinguishing Media: No information available.

Specific Hazards: Thermal decomposition can lead to release of irritating gases and vapors.

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.

Advice for Firefighters: Firefighters must wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with full face mask operating in positive pressure mode.

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Products Formed During Combustion and Thermal Degradation: Chlorine; Hydrogen chloride; Phosgene; Oxides of carbon

Sensitivity to Mechanical Impact: None known.

Sensitivity to Static Discharge: None known.

Lower Flammability Level (air): No information available

Upper Flammability Level (air): No information available

Flash point: 225 °F (107 °C)

Auto-ignition Temperature: Not determined

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep unnecessary and unprotected persons away. Isolate hazard area and deny entry. Evacuate surrounding area. Responders should wear a one piece, total-encapsulating suit of Viton® or Butyl coated nylon or equivalent. Wear a self-contained breathing apparatus operated in pressure demand mode. When handling this material, wear appropriate personal protective equipment recommended in Section 8, Exposure Controls / Personal Protection, of the SDS.

Personal Protective Equipment: Cleanup personnel must wear proper protective equipment. See section 8 for information on personal protective equipment. 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: Evacuate unnecessary personnel and eliminate all sources of ignition. Stop leak if possible without personal risk. Ventilate confined area if possible, without placing personnel at risk. For other than minor leaks, immediately implement the facility's predetermined emergency response plan. Shut off ventilation systems to occupied areas where they can be impacted by vapors picked up by the intake systems. Restrict access to the area until cleanup is complete. Prevent material and runoff from entering sewers and waterways if it can be done safely well ahead of the release.

Environmental Precautions: 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. After containment, collect the spilled material and transfer to a chemical waste area.

Neutralization: Completely contain spilled materials with dikes, sandbags, etc. Collect with appropriate absorbent and place into suitable container. Keep container tightly closed. Liquid material may be removed with a properly rated vacuum truck.

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Final Disposal: Runoff may pollute waterways. For waste disposal, see section 13.

Additional Disaster Prevention Measures: Keep away from water supplies and sewers.

SECTION 7. HANDLING AND STORAGE

Handling:

Precautions for Safe Handling: Avoid breathing vapor or mist. Avoid contact with skin, eyes and clothing. Do not taste or swallow. Wash thoroughly after handling.

Technical measures/precautions: Use product only in closed system.

Other precautions: Store in a well-ventilated area. Keep containers tightly closed when not in use or when empty.

Prevention of contact: Do not breathe mist, vapor, or spray. Closed manufacturing processes should be located outdoors or in a well ventilated indoor processing facility. Wear protective gloves, protective clothing, eye, and face protection. Do not eat, drink or smoke when using this product. Wash skin and contaminated clothing thoroughly after handling.

Storage:

Safe Storage Conditions: Store and handle in accordance with all current regulations and standards. Store in a cool, dry area. Keep container tightly closed and properly labeled. Store in a well-ventilated area. Prevent water or moist air from entering storage tanks or containers. Most vapors are heavier than air and will spread along ground and collect in low or confined areas (drains, basements, tanks). Store away from basements, pits or other confined spaces. Make daily inspections for leaks. Keep separated from incompatible substances (see Section 10 of the Safety Data Sheet).

Technical measures: Refer to Sections 6 and 10 for additional information.

Incompatible Substances: No data available.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

REGULATORY EXPOSURE LIMIT(S):

This product does not contain any components that have regulatory occupational exposure limits (OELs) established.

NON-REGULATORY EXPOSURE LIMIT(S):

Occidental Chemical Corporation has established a Manufacturer Recommended Exposure Limit (REL) as noted.:

Component	OXY REL 8 hr TWA	OXY REL STEL	OXY REL Ceiling
1,1,1,3,3- Pentachloropropane	0.05 ppm	0.25 ppm	NA

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[5CP] 23153-23-3 (99.7 - 100 %)			
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STEL: Short-Term Exposure Limit; TWA: Time Weighted Average

ENGINEERING CONTROLS: Handle product only in enclosed process system(s). Use only in well-ventilated areas. Provide local exhaust ventilation where vapor, mist or aerosols may be generated.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: 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: Solvent 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.

Hand Protection: Wear appropriate chemical resistant gloves. Wear medium weight (22-30 mil) or heavier solvent resistant gloves. Care must be taken not to contaminate bare hands when removing gloves.

Protective Material Types: Viton®, Butyl rubber, Nitrile - for short term contact

Respiratory Protection: Testing has been conducted that indicates a NIOSH approved full-face air purifying respirator equipped with organic vapor cartridges may be used for concentrations up to 5 ppm. When an air-purifying respirator is not adequate for spills and/or emergencies of unknown concentrations, an approved self-contained breathing apparatus 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.

HYGIENE MEASURES: An emergency eyewash fountain and quick drench shower should be provided in the immediate work area.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	Clear liquid
Color:	Colorless
Odor:	Slight chlorine odor
Molecular Weight:	216.3
Molecular Formula:	C ₃ H ₃ Cl ₅
pH:	9.3 @ 25 C
Melting Point/Range:	Not applicable to liquids
Freezing Point/Range:	No data available
Boiling point °C	74 °C / 28 mmHg (182.8972 °C / 760 mmHg)
Flash point:	225 °F (107 °C)
Vapor Pressure:	1.2 mm Hg @ 25 C
Vapor Density (air=1):	7.5

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Relative Density/Specific Gravity (water=1):	1.57 @ 25 C
Density:	8.5 lbs/gal @ 25 C
Water Solubility:	No data available
Partition Coefficient (n-octanol/water):	Log Kow = 3.4
Auto-ignition Temperature:	Not determined
Odor Threshold [ppm]:	An odor threshold has not been established for this compound
Evaporation Rate (ether=1):	No data available
Volatility:	100% by volume
Flammability (solid, gas):	Not applicable
Lower Flammability Level (air):	No information available
Upper Flammability Level (air):	No information available
Viscosity:	No data available

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Not known.

Reactivity: No studies have been found on reactivity.

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: No data available.

Hazardous Decomposition Products: Chlorine, Hydrogen chloride, Phosgene, Oxides of Carbon.

Hazardous Polymerization: Not expected to occur.

SECTION 11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:

ACUTE TOXICITY:

Findings from a 14-day acute dermal toxicity study in rabbits exposed to a single undiluted dose of 2020 mg/kg applied to the intact skin under semi-occlusive conditions found the following: no mortality occurred during the study, there were no clinical signs of toxicity at any time during the study. Signs of dermal irritation included erythema and desquamation. There was no effect on body weight gain, with the exception of one animal that lost weight during the second week. The gross necropsy conducted at termination of the study revealed no observable abnormalities. It was concluded that the material was not significantly absorbed across the skin.

Eye contact: May cause eye irritation with tearing, redness, or a stinging or burning feeling. May cause

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conjunctival redness and edema, and lid redness and edema. Edema may lead to blurred vision.

Skin contact: Skin Irritation. Exposure to liquid may cause redness and irritation. This chemical is not significantly absorbed across the skin.

Inhalation: It may cause irritation of upper and lower airways. Breathing this material may cause central nervous system depression with symptoms including nausea, headache, dizziness, fatigue, drowsiness, or unconsciousness.

Ingestion: Not a likely route of exposure. Exposure by ingestion may cause irritation, nausea, and vomiting. If ingestion occurs, symptoms may be similar to those of inhalation.

CHRONIC TOXICITY:

Rats were exposed for 6 hours daily for a total of 10 days to vapor levels of 2, 10 and 50 ppm. Rats exposed to 50 ppm had atrophy and degeneration of the nasal epithelium and increased liver weight, hypertrophy and rarefaction of the liver. Rats exposed to 10 ppm had similar effects on the olfactory epithelium. Lack of responsiveness to stimuli was observed during exposures to 10 and 50 ppm. No adverse effects were observed at 2 ppm. Findings from a 90-day inhalation study in rats exposed to levels of 1,2 and 25 ppm were as follows: Increased organ weights and histopathological changes were evidence of mild toxicity to the liver and kidney at 25 ppm. Histopathological findings in the kidney at 2 ppm were very similar to control animals (equivocal) but were not ruled out as "possibly related to exposure to the test material." Follicular cell hypertrophy of the thyroid observed at 25 ppm was believed to be secondary to effects on the liver (metabolism of thyroid hormones). Histopathological lesions in the nasal epithelium were observed at 25 ppm with equivocal effects at 2 ppm. The no observed effects level (NOEL) for this study was 1 ppm.

Chronic Effects: Studies in laboratory animals indicate that exposure to vapors of this material can cause adverse effects on the liver, kidney, and nasal epithelium. Repeated or prolonged skin contact may result in dermatitis. This material was found to be nonsensitizing in guinea pigs.

SIGNS AND SYMPTOMS OF EXPOSURE:

Inhalation (Breathing): Respiratory System Effects: This chemical behaves as a halogenated anesthetic agent. It may cause irritation of the upper and lower airways. 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: Skin Irritation. Exposure to liquid may cause redness and irritation. This chemical is not significantly absorbed across the skin.

Eye: Eye Irritation: Exposure to eyes may cause irritation, with tearing, redness, or a stinging or burning feeling. 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.

Other Health Effects: Narcotic Effects (Central Nervous System Depression): Ataxia or dizziness, drowsiness or fatigue, loss of consciousness, headache, euphoria and irritability, visual or hearing disturbances, nausea, memory loss.

Interaction with Other Chemicals Which Enhance Toxicity: Consumption of alcoholic beverages may increase potential for development of toxic effects resulting from exposure to this product. Combining with other solvents such as alcohol, volatile hydrocarbons, and halogenated hydrocarbons may be additive for central nervous depression effects.

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GHS HEALTH HAZARDS:

GHS: CONTACT HAZARD - SKIN: Category 2 - Causes skin irritation
GHS: CONTACT HAZARD - EYE: Category 2A - Causes serious eye irritation
GHS: ACUTE TOXICITY - ORAL: Category 4 - Harmful if swallowed
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE): Category 3 - May cause drowsiness or dizziness
GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE): Category 2 - May cause damage to the liver, kidney, and nasal epithelium through prolonged or repeated exposure

TOXICITY DATA:

LD50 Oral: 1369 mg/kg (Rat)	LD50 Dermal: 2020 mg/kg (Rabbit)	LC50 Inhalation: > 467 ppm - maximum obtainable concentration (4-hour Rat)
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Standard Draize (Eye): 5CP caused ocular irritation within 1 hour post-treatment, but all irritation resolved by day 14 following instillation.

Eye Irritation/Corrosion: May cause eye irritation with tearing, redness, or a stinging or burning feeling. May cause swelling of the eyes with blurred vision. Effects may become more serious with repeated or prolonged contact.

Standard Draize (Skin): Primary Irritation Index = 3.3 Slight to moderate erythema and very slight to slight edema were observed although all irritation resolved by day 14 following treatment

Skin Irritation/Corrosion: May cause skin irritation with redness, an itching or burning feeling, and swelling of the skin. Effects may become more serious with repeated or prolonged contact. Long-term contact may cause the skin to dry and crack or develop a rash.

Skin Absorbent / Dermal Route: A skin notation is not considered necessary since toxicity is not observed following prolonged application to the skin of rabbits. Yes.

RESPIRATORY OR SKIN SENSITIZATION: 5CP was not a skin sensitizer in guinea pigs.

CARCINOGENICITY: No carcinogenicity studies were located. 5CP is not classified as a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), or the Occupational Safety and Health Administration (OSHA).

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure): Category 3 - Narcotic Effects.

SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure): Studies in laboratory animals indicate that exposure to vapors of this material can cause adverse effects on the liver, kidney, and nasal epithelium. No observed effects level (NOEL) = 1.06 ppm.

INHALATION HAZARD: Breathing this material is harmful, and can cause death depending upon level and duration of exposure. Breathing this material may cause central nervous system depression with symptoms including nausea, headache, dizziness, fatigue, drowsiness, or unconsciousness. Breathing high concentrations of this material, for example, in an enclosed space or by intentionally breathing it, can cause irregular heartbeats, which can cause death.

IN-VITRO / IN-VIVO GENOTOXICITY: 5CP was not mutagenic in the Ames assay, and did not produce chromosomal aberrations in a micronucleus assay. Not classified as a mutagen per GHS criteria.

REPRODUCTIVE TOXICITY: No data are available on the product itself. No developmental or reproductive toxicity

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studies have been conducted with 5CP, but a similar compound, 1,1,2,2,3-pentachloropropane (PCP) did not affect reproductive indices in rats exposed to PCP concentrations of up to 15 ppm. Developmental effects were observed with PCP at oral doses of 125 mg/kg, but only in the presence of maternal toxicity. Not classified as a reproductive toxin per GHS criteria.

ASPIRATION HAZARD: Not classified as an aspiration hazard per GHS criteria. Aspiration of the liquid is expected to cause irritation of upper and lower airways. The liquid is expected to be volatilized and exhaled/absorbed as a gas.

TOXICOKINETICS: Not available.

METABOLISM: Not available.

ENDOCRINE DISRUPTOR: Not available.

NEUROTOXICITY: Not Available.

IMMUNOTOXICITY: Not available.

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY (EC, IC, and LC):

Ecotoxicity - Available LOLI Data for Components: The component ecotoxicity data is populated by the LOLI database and may differ from the product ecotoxicity data given

Component:	Freshwater Fish:	Invertebrate Toxicity:	Algae Toxicity:	Other Toxicity:
Hexachloroethane	*LC50 Pimephales promelas: 967 - 1250 µg/L 96h *LC50 Lepomis macrochirus: 712 - 1030 µg/L 96h *LC50 Oncorhynchus mykiss: 727 - 1920 µg/L 96h	-----	No data available	No data available
Carbon Tetrachloride	*LC50 Pimephales promelas: 36.3 - 47.3 mg/L 96h flow-through *LC50 Pimephales promelas: 9.68 - 11.3 mg/L 96h static *LC50 Lepomis macrochirus: 23 - 33 mg/L 96h static	*1500 ug/L 7 hour(s) EC50 (Regeneration) Flatworm (Dugesia japonica)	*EC50 Tetrahymena pyriformis (24 h) =830 mg/L	No data available
Hydrochloric Acid [Hydrogen Chloride]	282 mg/L LC50 96 h Gambusia affinis	56 mg/L EC50 72h Daphnia	No data available	No data available
Tetrachloroethylene [Perc]	*LC50 Pimephales	*EC50 Daphnia	*EC50	*LC50 Eisenia foetida

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	<p>promelas: 12.4 - 14.4 mg/L 96h flow-through *LC50 Pimephales promelas: 8.6 - 13.5 mg/L 96h static *LC50 Lepomis macrochirus: 11.0 - 15.0 mg/L 96h static *LC50 Oncorhynchus mykiss: 4.73 - 5.27 mg/L 96h flow-through</p>	<p>magna: 6.1 - 9.0 mg/L 48h</p>	<p>Pseudokirchneriella subcapitata (96 h) >500 mg/L</p>	<p>(14 Days soil wet weight) 100 - 320 mg/kg *NOEC Eisenia foetida (14 Days soil wet weight) 32 - 100 mg/kg</p>
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Aquatic Toxicity:

LC50/48h/daphnia =1.29 mg/l.

Fish Toxicity:

LC50 Fathead minnow: 4.76 mg/l (96 hour)

FATE AND TRANSPORT:

BIODEGRADATION: If released in water, will not degrade readily.

BIOCONCENTRATION: This material is not expected to bioconcentrate in aquatic systems.

BIOACCUMULATIVE POTENTIAL: The measured log octanol/water partition coefficient (log Kow) is 3.4.

MOBILITY IN SOIL: No data available.

ADDITIONAL ECOLOGICAL INFORMATION: 5CP may adversely affect aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS**Waste from material:**

Reuse or recycle if possible. May be subject to disposal regulations. Dispose in accordance with all applicable regulations.

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.

SECTION 14. TRANSPORT INFORMATION

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LAND TRANSPORT**U.S. DOT 49 CFR 172.101:**

UN NUMBER: UN2810
PROPER SHIPPING NAME: Toxic liquids, organic, n.o.s. (1,1,1,3,3-PENTACHLOROPROPANE)
HAZARD CLASS/ DIVISION: 6.1
PACKING GROUP: III
LABELING REQUIREMENTS: 6.1

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

UN NUMBER: UN2810
SHIPPING NAME: Toxic liquids, organic, n.o.s. (1,1,1,3,3-PENTACHLOROPROPANE)
CLASS OR DIVISION: 6.1
PACKING/RISK GROUP: III
LABELING REQUIREMENTS: 6.1

MARITIME TRANSPORT (IMO / IMDG)

Status - IMO / IMDG: Shipment by Vessel: Regulated

AIR TRANSPORT (ICAO / IATA)

Status - ICAO/IATA: Transport by passenger aircraft/rail and Cargo aircraft are limited

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):

If a release is reportable under CERCLA section 103, notify the state emergency response commission and local emergency planning committee. In addition, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

Component	U.S. DOT Hazardous Substances/ RQs	CERCLA Hazardous Substances / RQs	CERCLA Section 302 EHS EPCRA RQs	Section 302 Threshold Planning Quantity (TPQs)
Hexachloroethane 67-72-1 (< 0.005)	100 lbs(RQ)	100 lb(final RQ)	Not listed	Not Listed
Carbon Tetrachloride 56-23-5 (<0.002)	10 lbs(RQ)	10 lb(final RQ)	Not listed	Not Listed
Hydrochloric Acid [Hydrogen Chloride] 7647-01-0 (<0.001)	5000 lbs(RQ)	5000 lb(final RQ)	5000 lb(EPCRA RQ)	500 lb TPQ
Tetrachloroethylene [Perc]	100 lbs(RQ)	100 lb(final RQ)	Not listed	Not Listed

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127-18-4 (<0.0001)			
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SARA EHS Chemical (40 CFR 355.30)

Not regulated.

EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.10):

Acute Health Hazard, Chronic Health Hazard, Extremely Hazardous

SARA HAZARD CATEGORIES ALIGNED WITH GHS (2018):

Health Hazard - Acute Toxin (any route of exposure)

Health Hazard - Skin Corrosion or Irritation

Health Hazard - Serious eye damage or eye irritation

Health Hazard - Specific Target Organ Toxicity (STOT) Repeat Exposure (RE)

Health Hazard - Specific Target Organ Toxicity (STOT) Single Exposure (SE)

EPCRA SECTION 313 (40 CFR 372.65):

The impurities listed below are significantly lower than their established de minimis concentration.

Component	SARA 313 - Emission Reporting	SARA 313 PBT
Hexachloroethane 67-72-1 (< 0.005)	0.1% (de minimis concentration)	Not Listed
Carbon Tetrachloride 56-23-5 (<0.002)	0.1% (de minimis concentration)	Not Listed
Hydrochloric Acid [Hydrogen Chloride] 7647-01-0 (<0.001)	1.0% (de minimis concentration)	Not Listed
Tetrachloroethylene [Perc] 127-18-4 (<0.0001)	0.1% (de minimis concentration)	Not Listed

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

Not likely to be regulated based on composition level of component below in formulation

Component	DHS - Security Issues	DHS-Sabotage Screening Threshold Qnty.	DHS-Sabotage Min. Conc.	DHS-Theft Screening Threshold Qnty.	DHS-Theft Min. Conc.	DHS-Release Screening Threshold Qnty.	DHS-Release Min. Conc.	CWC Toxic Chemicals:
Hydrochloric Acid [Hydrogen Chloride] 7647-01-0 (<0.001)	Release - Toxic (concentration >=37%); Release - Toxic (anhydrous); Theft - Weapons of Mass Effect (anhydrous)	Not Listed	Not Listed	500 lb STQ (anhydrous)	a commercial grade; anhydrous	15000 lb STQ (concentration >=37%); 5000 lb STQ (anhydrous)	37.0% Minimum Concentration 1.0% Minimum Concentration	Not Listed

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

Not regulated.

Component	EPA RMP Toxic or Flammable TPQ	PSM - Highly Hazardous Substances, Toxics and Reactives	Flash Point
1,1,1,3,3- Pentachloropropane [5CP] 23153-23-3 (99.7 - 100)	Not Listed	Not Listed	
CBI (< 0.007)	Not Listed	Not Listed	
Tetrachloropropenes 60320-18-5 (< 0.001)	Not Listed	Not Listed	
Hydrochloric Acid [Hydrogen Chloride]	Toxic (15000 lb threshold)	5000 lb TQ; 5000 lb TQ	

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7647-01-0 (<0.001)	quantity) Toxic (5000 lb threshold quantity)	(anhydrous)	
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EPA'S CLEAN WATER AND CLEAN AIR ACTS:

This substance contains the ozone-depleting substance (ODS) Carbon Tetrachloride which is regulated as a Class I controlled substance by the U.S. Environmental Protection Agency. Class I substances have been completely phased out in the U.S., except for exemptions allowed under 40 CFR Part 82 (ODS regulations) and the Montreal Protocol. Those exemptions include feedstock (transformation) uses, destruction, certain process agent uses, and specific essential uses.

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
1,1,1,3,3-Pentachloropropane [5CP] 23153-23-3 (99.7 - 100 %)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
CBI (< 0.007 %)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Hexachloroethane 67-72-1 (< 0.005 %)	Present	Not Listed	Present	Present	Present	Not Listed	Not Listed	Not Listed
Carbon Tetrachloride 56-23-5 (<0.002 %)	Present	Class I ODS	Present	Present	Present	Not Listed	Not Listed	Not Listed
Tetrachloropropenes 60320-18-5 (< 0.001 %)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Hydrochloric Acid [Hydrogen Chloride] 7647-01-0 (<0.001 %)	Not Listed	Not Listed	Not Listed	Not Listed	Present	Not Listed	Not Listed	Toxic (15000 lb threshold quantity) Toxic (5000 lb threshold quantity)
Tetrachloroethylene [Perc] 127-18-4 (<0.0001 %)	Present	Not Listed	Present	Present	Present	Present	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
1,1,1,3,3-Pentachloropropane [5CP] 23153-23-3 (99.7 - 100 %)	Listed	ACTIVE	Section 5 (1 %) P-99-1327	Not listed	40 CFR 721.533 (PMN P-99-1327)	Not listed	Not listed
CBI (< 0.007 %)	Not Listed	Impurity	Not Listed	Not listed	Subject of SNUR 40 CFR 721.1	Not listed	CDR reporting threshold: 2,500 lb.
Hexachloroethane 67-72-1 (< 0.005 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not listed	Listed
Carbon Tetrachloride 56-23-5 (<0.002 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Chemicals subject to Risk Evaluation	Not listed
Tetrachloropropenes 60320-18-5 (< 0.001 %)	Not Listed	Impurity	Not Listed	Not listed	Not Listed	Not listed	Not listed

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(%)							
Hydrochloric Acid [Hydrogen Chloride] 7647-01-0 (<0.001 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not listed	Not listed
Tetrachloroethylene [Perc] 127-18-4 (<0.0001 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Chemicals subject to Risk Evaluation	Listed

Toxic Substance Control Act (TSCA) Restriction of Use:

This product is subject to a Significant New Use Rule (SNUR). This SNUR restricts this product's use to a chemical intermediate.

TSCA 12(b): THIS PRODUCT IS SUBJECT TO EXPORT NOTIFICATION. Section 12(b) of the Toxic Substances Control Act (TSCA) requires any person who exports or intends to export a chemical substance or mixture that is regulated under TSCA sections 4, 5, 6 and/or 7 to notify EPA of such export or intent to export. This requirement is described in more detail in the Code of Federal Regulations (CFR) at 40 CFR part 707, subpart D. Upon receipt of notification, EPA advises the government of the importing country of the U.S. regulatory action that required the notification with respect to that substance. EPA uses the information obtained from the submitter via this collection to advise the government of the importing country. This information collection addresses the burden associated with industry reporting of export notifications.

CANADIAN CHEMICAL INVENTORY: A component or impurity in this product is not on the Canadian Chemical Inventory (DSL or NDSL).

Component	DSL	NDSL
1,1,1,3,3- Pentachloropropane [5CP] 23153-23-3 (99.7 - 100)	Not Listed	Not Listed
CBI (< 0.007)	Not Listed	Not Listed
Hexachloroethane 67-72-1 (< 0.005)	Listed	Not Listed
Carbon Tetrachloride 56-23-5 (<0.002)	Listed	Not Listed
Tetrachloropropenes 60320-18-5 (< 0.001)	Not Listed	Not Listed
Hydrochloric Acid [Hydrogen Chloride] 7647-01-0 (<0.001)	Listed	Not Listed
Tetrachloroethylene [Perc] 127-18-4 (<0.0001)	Listed	Not Listed

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 additional information, contact OxyChem Customer Relations.

Component	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
1,1,1,3,3- Pentachloropropane [5CP] 23153-23-3 (99.7 - 100 %)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
CBI (< 0.007 %)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

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Hexachloroethane 67-72-1 (< 0.005 %)	Listed	Not Listed	Not Listed	Listed	Listed
Carbon Tetrachloride 56-23-5 (<0.002 %)	Listed	Not Listed	Not Listed	Listed	Listed
Tetrachloropropenes 60320-18-5 (< 0.001 %)	Not Listed				
Hydrochloric Acid [Hydrogen Chloride] 7647-01-0 (<0.001 %)	Not Listed	Not Listed	Not Listed	Listed	Listed
Tetrachloroethylene [Perc] 127-18-4 (<0.0001 %)	Listed	Not Listed	Not Listed	Listed	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
1,1,1,3,3- Pentachloropropane [5CP]	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
CBI	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Hexachloroethane	0981	carcinogen	Listed	Listed	Not Listed	Not Listed	Present
Carbon Tetrachloride	0347	carcinogen	Listed	Listed	Present	Present	Present
Tetrachloropropenes	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Hydrochloric Acid [Hydrogen Chloride]	1012	corrosive	Listed	Listed	Not Listed	Not Listed	Present
Tetrachloroethylene [Perc]	1810	carcinogen	Listed	Listed	Present	Present	Present

CANADIAN REGULATIONS

This material is not listed on the Canadian Chemical Inventory. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Component	Canada - CEPA - Schedule I - List of Toxic Substances	Canada - NPRI	Canada - CEPA - 2010 Greenhouse Gases (GHG) Subject to Mandatory Reporting	CANADIAN CHEMICAL INVENTORY:	NDSL:
1,1,1,3,3- Pentachloropropane [5CP] 23153-23-3 (99.7 - 100)	Not listed	Not Listed	Not Listed	Not Listed	Not Listed
CBI (< 0.007)	Not listed	Not Listed	Not Listed	Not Listed	Not Listed
Hexachloroethane 67-72-1 (< 0.005)	Present (065)	Part 1, Group 1 Substance Part 4 Substance	Not Listed	Listed	Not Listed
Carbon Tetrachloride 56-23-5 (<0.002)	Present (018) Present (065)	Part 1, Group 1 Substance Part 4 Substance	Not Listed	Listed	Not Listed
Tetrachloropropenes 60320-18-5 (< 0.001)	Not listed	Not Listed	Not Listed	Not Listed	Not Listed
Hydrochloric Acid [Hydrogen Chloride] 7647-01-0 (<0.001)	Not listed	Part 1, Group 1 Substance	Not Listed	Listed	Not Listed
Tetrachloroethylene [Perc] 127-18-4 (<0.0001)	Present (044) Present (065)	Part 1, Group 1 Substance Part 4 Substance	Not Listed	Listed	Not Listed

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SECTION 16. OTHER INFORMATION

Prepared by: OxyChem Corporate HESS - Product Stewardship

Rev. Date: 28-Oct-2020

Reason for Revision:

- Change of company physical address: SEE SECTION 1
- Updated 24 Hour Emergency Telephone Number: SEE SECTION 1
- Added synonym(s): SEE SECTION 1
- Updated Product Use information: SEE SECTION 1
- Added restrictions on use: See SECTION 1
- Revised Major Health Hazards: SEE SECTION 2
- Added or revised Precautionary Statements: SEE SECTION 2
- A component has been added to the formulation. SEE SECTION 3
- Format change to sections 2, 3, 8, 11, 15, and 16
- FIRST AID MEASURES (SECTION 4)
- Modified Fire Fighting Measure Recommendations: SEE SECTION 5
- Revised Accidental Release Measures: SEE SECTION 6
- Revised Handling and Storage Recommendations: SEE SECTION 7
- Revised Exposure Controls/Personal Protection information: SEE SECTION 8
- Toxicological Information has been revised: SEE SECTION 11
- Ecological Information has been modified: SEE SECTION 12
- Updated Transportation Information: SEE SECTION 14
- Regulatory Information Changes: SEE SECTION 15
- Added SARA Hazard Categories Aligned with GHS (2018): SEE SECTION 15
- Added LOLI tables such as EPA'S Clean Water / Air Act, TSCA status, DHS, PSM, EPCRA, CERCLA, Federal Canadian: SEE SECTION 15
- WHMIS Classifications were removed from format: SEE SECTION 15
- Updated TSCA Status Table: SEE SECTION 15
- Removed NFPA/HMIS ratings from format: SEE SECTION 16

IMPORTANT:

The information presented herein, while not guaranteed, was prepared by technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESSED OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal and other factors that may involve other or additional legal, environmental, safety or performance considerations, and Occidental Chemical Corporation assumes no liability whatsoever for the use of or reliance upon this information. While our technical personnel will be happy to respond to questions, safe handling and use of the product remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any federal, state, local or foreign laws.

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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