

SAFETY DATA SHEET

M41759 - ANSI - EN



Occidental Chemical Corporation

A subsidiary of Occidental Petroleum Corporation



DECHLORANE PLUS ® (ALL GRADES)

SDS No.: M41759

SDS Revision Date: 04-Dec-2014

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification:	Occidental Chemical Corporation 5005 LBJ Freeway P.O. Box 809050 Dallas, TX 75380-9050 1-800-752-5151
24 Hour Emergency Telephone Number:	1-800-733-3665 or 1-972-404-3228 (USA); 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:	DECHLORANE PLUS ® (ALL GRADES)
Trade Name:	Dechlorane Plus®, Grades 25, 35 and 515
Synonyms:	Dech Plus, 1,4:7,10-Dimethanodibenzo(a,e)cyclooctene, 1,2,3,4,7,8,9,10,13,13,14,14-dodecachloro-1,4,4a,5,6,6a,7,10,10a,11,12,12a-dodecahydro-, Bis (hexachlorocyclopentadieno) cyclooctane
Product Use:	Flame retardant mixed into plastics and other materials
Uses Advised Against:	None identified.
Note:	Shipments of this product to Canada are prohibited

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2. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW:

Color: White
Physical state Solid, Powder
Appearance: Free-flowing
Odor: Odorless

Signal Word: **WARNING**

MAJOR HEALTH HAZARDS: EXPOSURE TO HIGH CONCENTRATIONS OF DUST MAY CAUSE LIVER EFFECTS.

ECOLOGICAL HAZARDS: Persistent in the environment.

PRECAUTIONARY STATEMENTS: Do not breathe dust. Wash thoroughly after handling. Use only with adequate ventilation.

GHS CLASSIFICATION:

GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE):	Category 2 - May cause damage to liver through prolonged or repeated exposure
GHS: CARCINOGENICITY:	Not classified as a carcinogen per GHS criteria. This product is not classified as a carcinogen by NTP, IARC or OSHA.

UNKNOWN ACUTE TOXICITY:

Not applicable. This product was tested as a whole. This information only pertains to untested mixtures.

GHS SYMBOL:

Health hazard



GHS SIGNAL WORD: **WARNING**

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GHS HAZARD STATEMENTS:**GHS - Health Hazard Statement(s)**

May cause damage to liver through prolonged or repeated exposure when inhaled

GHS - Precautionary Statement(s) - Prevention

Do not breathe dust, fume, gas, mist, vapors, or spray

GHS - Precautionary Statement(s) - Response

Get medical advice/attention if you feel unwell

GHS - Precautionary Statement(s) - Storage

There are no Precautionary-Storage phrases assigned

GHS - Precautionary Statement(s) - Disposal

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

Hazards Not Otherwise Classified (HNOC)

None identified

See Section 11: TOXICOLOGICAL INFORMATION

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Dech Plus, 1,4:7,10-Dimethanodibenzo(a,e)cyclooctene, 1,2,3,4,7,8,9,10,13,13,14,14-dodecachloro-1,4,4a,5,6,6a,7,10,10a,11,12,12a-dodecahydro-, Bis (hexachlorocyclopentadieno) cyclooctane

Component	Percent [%]	CAS Number
Dechlorane Plus®	99.00 -100.00	13560-89-9

4. FIRST AID MEASURES

INHALATION: No expected effect. If adverse effects occur, remove to uncontaminated area. IF SYMPTOMS OF OVEREXPOSURE OCCUR, GET MEDICAL ATTENTION.

SKIN CONTACT: No expected effect. Wash contaminated areas with soap and water. IF IRRITATION OCCURS, GET MEDICAL ADVICE/ATTENTION.

EYE CONTACT: No expected effect. If in eyes, rinse cautiously with water for several minutes. Continue rinsing. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

INGESTION: No expected effect. IF LARGE AMOUNTS ARE INGESTED, GET MEDICAL ATTENTION.

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Most Important Symptoms/Effects (Acute and Delayed) :

Acute Symptoms/Effects: Listed below.

Inhalation (Breathing): Respiratory System Effects: No known effects.

Skin: This material is not irritating. This material is not a skin sensitizer.

Eye: This material is not irritating.

Ingestion (Swallowing): No known effects. This material is poorly absorbed from the gastrointestinal (GI) tract.

Delayed Symptoms/Effects:

- Exposures to high concentrations of dust for prolonged periods of time may cause liver damage and reduce lung function

Interaction with Other Chemicals Which Enhance Toxicity: None known.

Medical Conditions Aggravated by Exposure: Potentially liver disorders.

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. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

Notes to Physician: This material has the potential to be harmful to human health based upon information from an animal study. Prolonged and repeated inhalation of high levels of respirable dust caused an increase in the liver weights of exposed animals.

5. FIRE-FIGHTING MEASURES

Fire Hazard: Negligible fire hazard.

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire.

Fire Fighting: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Wear an approved positive-pressure self-contained breathing apparatus operated in pressure demand mode.

Hazardous Combustion Products: Hydrogen chloride

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): Not flammable

Upper Flammability Level (air): Not flammable

Flash point: Not flammable

Auto-ignition Temperature: Not determined

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6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Avoid breathing dust. Minimize generation of dust. Wear appropriate personal protective equipment recommended in Section 8 of the SDS.

Methods and Materials for Containment and Cleaning Up:

Shovel dry material into suitable container. Clean up residue with a high-efficiency particulate filter vacuum. Use methods to minimize generation of dust.

Environmental Precautions:

Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

During processing use only with adequate ventilation. Avoid breathing dust. Wash thoroughly after handling. Do not reuse containers. Use methods to minimize dust.

Safe Storage Conditions:

Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Keep dry. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

Incompatibilities/ Materials to Avoid:

Incompatible with oxidizing agents

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Regulatory Exposure Limit(s): None. This product does not contain any components that have regulatory occupational exposure limits (OEL's).

OEL: Occupational Exposure Limit; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit

NON-REGULATORY EXPOSURE LIMIT(S): Listed below for the product components that have non-regulatory occupational exposure limits (OEL's).

OXY REL 8 hr TWA	Recommended Exposure Limit - 1 mg/m ³ recommended Time Weighted Average 8 hour (Manufacturer recommended Occupational Exposure Limit)
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- The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).

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- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

ENGINEERING CONTROLS: Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Safety glasses or goggles are recommended when there is a potential for eye contact.

Skin and Body Protection: Wear protective clothing to minimize skin contact. Use high-efficiency particulate filter vacuum to remove dust from clothing.

Hand Protection: Wear appropriate chemical resistant gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types: Tyvek®, Rubber, Nitrile, Neoprene

Respiratory Protection: A NIOSH approved respirator with high efficiency particulate air (HEPA) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid, Powder
Appearance:	Free-flowing
Color:	White
Odor:	Odorless
Odor Threshold [ppm]:	No data available. No odor warning properties.
Molecular Weight:	653.70
Molecular Formula:	C18H12Cl12
Decomposition Temperature:	662°F (350°C)
Boiling Point/Range:	Not applicable to solids
Freezing Point/Range:	Not applicable to solids.
Melting Point/Range:	662°F (350°C), (decomposes)
Vapor Pressure:	negligible
Vapor Density (air=1):	Not applicable
Relative Density - Specific Gravity (water=1):	1.8
Density:	1.8 g/cc
Water Solubility:	Insoluble
pH:	Not applicable to solids

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Volatility:	Not applicable
Evaporation Rate (ether=1):	Not applicable
Partition Coefficient (n-octanol/water):	Log Kow = 9.30
Flash point:	Not flammable
Flammability (solid, gas):	Not flammable
Lower Flammability Level (air):	Not flammable
Upper Flammability Level (air):	Not flammable
Auto-ignition Temperature:	Not determined
Viscosity:	Not applicable to solids

10. STABILITY AND REACTIVITY**Reactivity:** Not reactive under normal temperatures and pressures.**Chemical Stability:** Stable at normal temperatures and pressures.**Possibility of Hazardous Reactions:**

Keep away from heat and flame. Avoid contact with incompatible materials.

Conditions to Avoid:

Keep away from heat and flame. Avoid contact with incompatible materials.

Incompatibilities/ Materials to Avoid:

Incompatible with oxidizing agents

Hazardous Decomposition Products: hydrogen chloride**Hazardous Polymerization:** Will not occur.**11. TOXICOLOGICAL INFORMATION****TOXICITY DATA:****PRODUCT TOXICITY DATA: DECHLORANE PLUS® (ALL GRADES)**

LD50 Oral: >25 gm/kg Rat)	LD50 Dermal: >8 gm/kg (Rabbit)	LC50 Inhalation: >2250 mg/m ³ (Rat)
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COMPONENT TOXICITY DATA:

Component	LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
Dechlorane Plus® 13560-89-9	25 g/kg (Rat)	8 g/kg (Rabbit)	-----

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POTENTIAL HEALTH EFFECTS:

Eye contact:	This material is not irritating.
Skin contact:	This material is not irritating. This material is not a sensitizer.
Inhalation:	No known effects.
Ingestion:	Based on animal studies, no acute effects are expected. This material is poorly absorbed from the gastrointestinal (GI) tract.
Chronic Effects:	Exposures to high concentrations of dust for prolonged periods of time may cause liver damage and reduce lung function.

SIGNS AND SYMPTOMS OF EXPOSURE:

Listed below.

- Inhalation (Breathing):** Respiratory System Effects: No known effects.
Skin: This material is not irritating. This material is not a skin sensitizer.
Eye: This material is not irritating.
Ingestion (Swallowing): No known effects. This material is poorly absorbed from the gastrointestinal (GI) tract.

TOXICITY:

This material is believed to be acutely non-toxic by inhalation, dermal exposure, and ingestion. No effects were noted in acute toxicity testing in animals. There were no noted effects in a 4-hour inhalation test, nor during the 14 day post treatment observation period. One sub-chronic inhalation study included inhalation exposure for six hours a day for 28 days at concentrations up to 1534 mg/m³ demonstrated increased liver weights with corresponding hepatocytomegaly of centrilobar hepatocytes in all exposed animals. In this study there was an increase in pulmonary weights in some of the test animals. This material did not produce any effect during a 28 day dermal study. Rats fed diets consisting of up to 100,000 ppm for 90 days did not exhibit ill effects. Metabolism studies indicate that this material has limited absorption from the GI tract.

Interaction with Other Chemicals Which Enhance Toxicity: None known.

GHS HEALTH HAZARDS:**GHS: CARCINOGENICITY:**

Not classified as a carcinogen per GHS criteria. This product is not classified as a carcinogen by NTP, IARC or OSHA.

SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure):

Category 2 - Liver

MUTAGENIC DATA:

Not classified as a mutagen per GHS criteria. Not mutagenic in 5 Salmonella strains and 1 E. coli strain with or without mammalian microsomal activation.

REPRODUCTIVE TOXICITY:

Not classified as a reproductive toxin per GHS criteria

There are no known or recorded effects on reproductive function or fetal development

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12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

Fish Toxicity:

LC50 Bluegill sunfish: >100 mg/L (96 hr)

FATE AND TRANSPORT:

BIODEGRADATION: If released in water, this material is expected to preferentially adsorb to sediment. This material is resistant to biodegradation by aerobic and anaerobic bacteria.

PERSISTENCE: This material will persist in the environment. The photodegradation half-life is over 24 years.

BIOCONCENTRATION: This material is not expected to bioconcentrate in aquatic systems. The BCF at 48 hours in Bluegill Sunfish was 7.02, but at 96 hours, the BCF was 1.97.

ADDITIONAL ECOLOGICAL INFORMATION: Kow: 1950000000 (log = 9.300).

13. DISPOSAL CONSIDERATIONS

Waste from material:

Reuse or reprocess, if possible. 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.

14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

Status: Not regulated

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

Status: Shipments to Canada are prohibited

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MARITIME TRANSPORT (IMO / IMDG) :

Status - IMO / IMDG: Not Regulated

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.

SARA EHS Chemical (40 CFR 355.30)

Not regulated

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

Chronic Health Hazard

EPCRA SECTION 313 (40 CFR 372.65):

Not regulated.

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

Not regulated

NATIONAL INVENTORY STATUS

U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA): All components are listed or exempt.

TSCA 12(b): This product is not subject to export notification.

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

STATE REGULATIONS

There are no applicable state regulations for this product or its components.

CANADIAN REGULATIONS

All components of this product are listed on either the DSL or the NDSL. Shipments to Canada are prohibited.

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16. OTHER INFORMATION

Prepared by: OxyChem Corporate HESS - Product Stewardship

Rev. Date: 04-Dec-2014

HMIS: (SCALE 0-4) (Rated using National Paint & Coatings Association HMIS: Rating Instructions, 2nd Edition)

Health Rating: 1*

Flammability Rating: 0

Reactivity Rating: 0

NFPA 704 - Hazard Identification Ratings (SCALE 0-4)

Not classified as hazardous according to the National Fire Protection Association (NFPA) system.

Reason for Revision:

- Three year review
- Changed the SDS format to meet the GHS requirements of the revised 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
- Updated the (M)SDS header
- Updated 24 Hour Emergency Telephone Number: SEE SECTION 1
- Product Identifier has been added or updated: SEE SECTION 1
- Updated Uses Advised Against information: SEE SECTION 1
- Added OSHA Status: SEE SECTION 2
- Added GHS Information: SEE SECTION 2
- Added synonym(s): SEE SECTION 3
- Updated First Aid Measures: SEE 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
- Updated Physical and Chemical Properties. SEE SECTION 9
- Stability and Reactivity recommendations: SEE SECTION 10
- Toxicological Information has been revised: SEE SECTION 11
- Ecological Information has been modified: SEE SECTION 12
- Updated Disposal Considerations. SEE SECTION 13
- Updated Transportation Information: SEE SECTION 14
- Regulatory Information Changes: SEE SECTION 15
- Revised Preparer Information: SEE SECTION 16
- Added SDS Revision Date: SEE SECTION 16
- Added "End of Safety Data Sheet" phrase

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IMPORTANT:

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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