SAFETY DATA SHEET

OXYVINYLS® PVC HOMOPOLYMER SUSPENSION RESIN, HIGH RESIDUAL VCM 100R (OFF-GRADE CLASS III)

SDS No.: M45197 **Rev. Date:** 04-Feb-2021
North America - EN

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Identification:	Oxy Vinyls, LP 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:	**OXYVINYLS® PVC HOMOPOLYMER SUSPENSION RESIN, HIGH RESIDUAL VCM 100R (OFF-GRADE CLASS III)**
Trade Name:	OxyVinyls® 100R, PVC Chunks
Synonyms:	PVC Chunks; Polyvinyl chloride Chunks
Product Use:	PVC HIGH VCM RECLAIM FOR PROCESSING: RECYLCE FOR USE BY PVC FORMULATORS AND PROCESSORS
Uses Advised Against:	Some formulation additives historically used in PVC compounding are currently restricted and/or banned, such as but not limited to, some phthalates plasticizers and heavy metals (e.g. lead). PVC compounders/processors should verify their product formulations to ensure regulatory compliance and environment/human health and safety of final products.

Restrictions on Use (United States):	Processing and/or storage of the material as received prior to the PVC resin reclaim process may generate vinyl chloride exposures in excess of the OSHA Occupational Permissible Exposure Levels (PELs); See OSHA's Vinyl Chloride Standard CFR 1910.1017 for regulatory requirements associated with working with this material. PVC resin itself is not restricted; however, certain formulation additives used in compounding may be restricted and/or banned. PVC compounders/processors must verify their product formulations to ensure compliance with various local, state, and national restrictions.
Other Global Restrictions on Use:	PVC reclaim processing of this material is not expected to be conducted outside of the United States; however, the vinyl chloride concentration of the reclaimed PVC resin should be verified before marketing. The PVC compounding process uses various stabilizers, lubricants, fillers, and additives which must be evaluated to determine their regulatory, environmental, and sustainability requirements on a case-by-case basis.

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:	White to off-white
Physical State:	Solid
Appearance:	Powder, Granular
Odor:	Odorless
Signal Word:	**DANGER**

MAJOR HEALTH HAZARDS: MAY CAUSE RESPIRATORY IRRITATION. MAY CAUSE DROWSINESS OR DIZZINESS. SUSPECTED OF CAUSING GENETIC DEFECTS. MAY CAUSE DAMAGE TO RESPIRATORY SYSTEM THROUGH PROLONGED OR REPEATED EXPOSURE BY INHALATION. CAUSES DAMAGE TO THE NERVOUS SYSTEM, MUSKOSKELETAL SYSTEM, LYMPHATIC SYSTEM AND RESPIRATORY SYSTEM THROUGH PROLONGED OR REPEATED EXPOSURE. THIS MATERIAL CONTAINS A COMPONENT THAT IS A POTENTIAL ENDOCRINE DISRUPTOR. CONTAMINATED WITH VINYL CHLORIDE. EXPOSURE TO VINYL CHLORIDE MAY CAUSE CANCER. THIS PRODUCT CONTAINS LESS THAN 3.0% RESIDUAL VINYL CHLORIDE MONOMER (VCM).

PHYSICAL HAZARDS: Use methods to minimize generation of dust. PVC dust is capable of propagating a secondary dust explosion.

OXYVINYLS® PVC HOMOPOLYMER SUSPENSION RESIN, HIGH RESIDUAL VCM 100R (OFF-GRADE CLASS III)

PRECAUTIONARY STATEMENTS: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapors/dust. Wash skin and contaminated clothing thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Use respiratory protection as required.

ADDITIONAL HAZARD INFORMATION: Processing and/or storage of the material as received prior to the PVC resin reclaim process may generate vinyl chloride exposures in excess of the OSHA Occupational Permissible Exposure Levels (PELs); See OSHA's Vinyl Chloride Standard CFR 1910.1017 for regulatory requirements associated with working with this material.

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HAZARD CLASSIFICATION:

GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):	Category 3 - May cause respiratory tract irritation Category 3 - May cause drowsiness or dizziness
GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE):	Category 1 - Causes damage to the nervous system, musculoskeletal system, lymphatic system and respiratory system through prolonged or repeated exposure Category 2 - May cause damage to lungs through prolonged or repeated exposure by inhalation
GHS: CARCINOGENICITY:	Category 1A - May cause cancer
GHS: GERM CELL MUTAGENICITY:	Category 2 - Suspected of causing genetic defects
HAZARDS NOT OTHERWISE CLASSIFIED (HNOC):	- PVC dust is capable of propagating a secondary dust explosion

GHS SYMBOL: Health hazards, Exclamation mark

GHS SIGNAL WORD: **DANGER**

GHS HAZARD STATEMENTS:

GHS - Health Hazard Statement(s) -
• May cause respiratory irritation
• May cause drowsiness or dizziness
• Suspected of causing genetic defects
• May cause cancer
• Causes damage to organs through prolonged or repeated exposure (Central Nervous System (CNS), Musculoskeletal System, Lymphatic System, Respiratory System)
• May cause damage to respiratory system through prolonged or repeated exposure by inhalation

GHS - Precautionary Statement(s) - Prevention
• Obtain special instructions before use
• Do not handle until all safety precautions have been read and understood
• Do not breathe dust
• Wash skin and contaminated clothing thoroughly after handling

• Do not eat, drink or smoke when using this product
• Use only outdoors or in a well-ventilated area
• Use respiratory protection as required

GHS - Precautionary Statement(s) - Response
• IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing
• IF INHALED: Call a POISON CENTER OR LICENSED HEALTH CARE PROVIDER if you feel unwell
• IF exposed or concerned: Get medical advice/attention
• Get medical advice/attention if you feel unwell

GHS - Precautionary Statement(s) - Storage
• Store in a well-ventilated place. Keep container tightly closed
• Store in a secure manner

GHS - Precautionary Statement(s) - Disposal
• Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Physical Hazards Not Otherwise Classified
• PVC dust is capable of propagating a secondary dust explosion

Hazard Not Otherwise Classified (HNOC)-Health
• Repeat occupational exposure to Vinyl Chloride have been associated with Raynaud syndrome and associated scleroderma-like skin changes on the hands
• Vinyl Chloride is listed on The Endocrine Disruptors Exchange's (TEDX) List of Potential Endocrine Disruptors database of chemicals with the potential to affect the endocrine system. Every chemical on the TEDX List has one or more verified citations published, accessible, primary scientific research demonstrating effects on the endocrine system

See Section 11: TOXICOLOGICAL INFORMATION

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Percent [%]
Ethene, chloro-, homopolymer (PolyVinyl Chloride)	9002-86-2	97 - 100
Vinyl Chloride	75-01-4	0.1 - 3

SECTION 4. FIRST AID MEASURES

INHALATION: If adverse effects occur, such as irritation or CNS symptoms, remove to uncontaminated area. Get medical attention if you feel unwell.

SKIN CONTACT: Wash contaminated areas with water. If irritation persists, get medical advice/attention.

EYE CONTACT: If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation occurs, get medical advice/attention.

INGESTION: No expected effect. If large amounts are ingested, GET MEDICAL ATTENTION.

Most Important Symptoms/Effects (Acute and Delayed):

Acute Symptoms/Effects:

Inhalation (Breathing): Respiratory System Effects: Inhalation of powders or fine particulates may cause respiratory tract irritation, cough. Inhalation of VCM may cause lightheadedness, dizziness, or other central nervous system effects. Repeated inhalation exposure to VCM vapors may result in alterations in liver enzymes.
Skin: Skin Irritation. Exposure of powder or fine particulates to skin may cause slight redness, irritation due to mechanical effect. Repeated dermal exposure to VCM vapors may result in alterations in liver enzymes.
Eye: Eye Irritation. Eye exposure may cause mild irritation of the eyelids and conjunctiva due to mechanical effect.
Ingestion (Swallowing): Ingestion is not a likely route of exposure.
Other Health Effects: Occupational asthma has been reported.

Delayed Symptoms/Effects:

- Occupational overexposure to VCM has been associated with cancer (angiosarcoma of the liver) and changes in bones and skin (Raynaud's disease), especially in the extremities such as the fingers (acroosteolysis)
- Additionally, repeated exposure may result in dose-related sensory disorders, nervous system effects, blood system damage, hepatomegaly and liver enzyme changes, and pulmonary insufficiency
- Inhalation of high levels of respirable PVC particles has been associated with pulmonary fibrosis, a PVC pneumoconiosis, in several studies. Laboratory findings included small opacities on chest x-ray and impairment of lung function (restriction or reversible airway obstruction)
- Occupational asthma has been reported
- Respirable particles are less than 10 microns in size. Particles associated with suspension polymerization are typically greater than 10 microns in size

Protection of First-Aiders: Do not breathe dust. Avoid contact with skin and eyes. Use personal protective equipment (PPE). Refer to Section 8 for specific PPE recommendations. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

Notes to Physician: This material causes mild mechanical irritation to skin and eyes. Removing the material via irrigation is usually sufficient. Acute overexposure to VCM generally only requires removal to fresh air. There is no specific antidote. Treat the patient's symptoms.

Interaction with Other Chemicals Which Enhance Toxicity: None known.

Medical Conditions Aggravated by Exposure: Respiratory conditions including asthma and other breathing disorders.

SECTION 5. FIRE-FIGHTING MEASURES

Fire Hazard: VCM may concentrate in headspace of storage containers or processing equipment and present a severe fire hazard. Vapor/air mixtures of VCM are explosive. VCM vapors may ignite at distant sources and flash back. Containers with VCM buildup in headspace may rupture or explode if exposed to heat. However, the PVC once reclaimed, is considered combustible. PVC can give off irritating or toxic fumes (or gases) in a fire. Finely dispersed PVC particles form explosive mixtures in air.

Explosive properties: Minimize dust formation. PVC dust is capable of propagating a secondary dust explosion.

Extinguishing Media: To extinguish fires resulting from VCM vapors use carbon dioxide, regular dry chemical, foam or water.

Unsuitable Extinguishing Media: No information available.

Specific Hazards: This product contains residual vinyl chloride monomer (VCM) at levels that requires worker and workplace monitoring to determine whether specific requirements of OSHA's Vinyl Chloride Standard 29CFR 1910.1017 (e.g. medical surveillance and other mandatory regulatory requirements) are applicable. PVC decomposes on heating. This produces toxic fumes including hydrogen chloride and phosgene. Reacts violently with fluorine. Reacts violently with acetal and acetal copolymers.

Unusual Hazards: Reclaimed PVC foamed compounds may burn readily based on other formulation additives. Finished foam resins burn readily. Once fire becomes established in stock of a foamed compound will develop rapidly and application of large quantities of water at early stage is necessary to effect extinguishment. Foamed compounds are excellent thermal insulators and risk of spontaneous ignition may arise if freshly manufactured material is not allowed to cool thoroughly before stacking in bulk.

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

Hazardous Combustion Products: Phosgene; Hydrogen chloride; Oxides of carbon; Small amounts of benzene and aromatic and aliphatic hydrocarbons

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Electrostatic charges may build up during handling. Ground equipment.

Lower Flammability Level (air): Not flammable

Upper Flammability Level (air): Not flammable

Flash point: 736 °F (391 °C)

Method: ASTM D1929

Auto-ignition Temperature: 849 °F (454 °C)

Physical Hazards Not Otherwise Classified
- PVC dust is capable of propagating a secondary dust explosion

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep unnecessary people away, isolate hazard area and deny entry. Eliminate all sources of ignition. Ground equipment. Do not breathe dust. Avoid contact with skin and eyes. 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.

Emergency Procedures: Prevent material and runoff from entering sewers and waterways if it can be done safely well ahead of the release. For other than minor leaks, immediately implement the facility's predetermined emergency response plan.

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

Methods and Materials for Clean-up :

Recovery: Reuse, reprocess, recycle if possible. The recovered material must be placed in a suitable container and labelled with corresponding identification. Avoid dust formation. Shoveling or sweeping dry material may generate dust. HEPA vacuum or wet sweep any remaining material into a suitable container.
Neutralization: No additional information available.
Final Disposal: Runoff may pollute waterways. Dispose in accordance with all applicable regulations. For waste disposal, see section 13.

SECTION 7. HANDLING AND STORAGE

Handling:

Precautions for Safe Handling: Do not breathe vapours/dust. Use methods to minimize generation of dust. PVC dust is capable of propagating a secondary dust explosion. This potential can be reduced by good housekeeping, prevention of dust from process equipment, preventing accumulation of dust emissions on overhead, horizontal surfaces and eliminating potential ignition sources. Avoid contact with skin, eyes and clothing. Wash skin and contaminated clothing thoroughly after handling.

Technical measures/precautions: Storage and transport may result in degassing, causing buildup of vinyl chloride in vapor space. Levels of vinyl chloride may reach hazardous concentrations. In addition, processing of product may release hazardous concentrations of vinyl chloride vapors. Processing equipment must be properly ventilated to protect the workers and environment from hazardous vinyl chloride releases. Refer to environmental and worker regulations noted in Section 15.

Other precautions: Post "No Smoking" signs in handling and storage areas. Ground any equipment used in handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Storage:

Safe Storage Conditions: Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Store in a cool, dry area. Store in a well-ventilated area. Avoid heat, flames, sparks and other sources of ignition. Ground equipment.

Technical measures: Prohibit smoking inside locations where hazardous chemicals are store, demark with "No Smoking" signs at the main entrances and in the storage areas in a visible location. Retie polyethylene liner after each use and keep container tightly closed. The storage area should not be exposed to direct sunlight or ultraviolet light. It should be fire resistant and have an effective sprinkler system with good ventilation.

Incompatible Substances: PVC reacts violently with acetal and acetal copolymers. PVC reacts violently with fluorine.

Physical Hazards Not Otherwise Classified
- PVC dust is capable of propagating a secondary dust explosion

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Component	OSHA Final PEL TWA	OSHA Final PEL STEL	OSHA Final PEL Ceiling
Particles Not Otherwise Regulated (PNOR) 00-00-001 (100 %)	15mg/m³ (Total) 5mg/m³ (Respirable)	-----	-----
Vinyl Chloride 75-01-4 (0 - 3 %)	1 ppm	5 ppm	-----

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

Component	Canada - TWAs	Canada - STELs	Canada - Ceilings
Ethene, chloro-, homopolymer (PolyVinyl Chloride) 9002-86-2 (97 - 100 %)	Ontario - 1 mg/m³ (TWA) British Columbia - 1 mg/m³ (TWA)	-----	-----
Vinyl Chloride 75-01-4 (0 - 3 %)	Ontario - 1 ppm (TWA) Alberta - 1 ppm (TWA) Alberta - 2.6 mg/m³ (TWA) British Columbia - 1 ppm (TWA)	-----	-----

NON-REGULATORY EXPOSURE LIMIT(S):

Listed below for the product components that have non-regulatory occupational exposure limits (OELs).

Component	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	Skin Absorption - ACGIH	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA Ceiling (Vacated)
Ethene, chloro-, homopolymer (PolyVinyl Chloride) 9002-86-2 (97 - 100 %)	1 mg/m^3	-----	-----	-----	-----	-----	-----
Vinyl Chloride 75-01-4 (0 - 3 %)	1 ppm	-----	-----	-----	-----	-----	-----

- 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).

- 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.

Polyvinyl Chloride (PVC) ACGIH exposure level is established at 1 mg/m^3. Recommended Exposure Limits (REL's) are non-regulatory occupational exposure limits that the manufacturer has established based on health effects data.

Component	OXY REL 8 hr TWA	OXY REL STEL	OXY REL Ceiling
Ethene, chloro-, homopolymer (PolyVinyl Chloride) 9002-86-2 (97 - 100 %)	1 mg/m^3	NA	NA

Additional Advice: The fabrication processes for the final product may involve coating, calendering, and molding. To assess the health hazards associated with exposure to compounded PVC dusts, it may be necessary to have information on the ingredients used in the compounding of the resin.

ENGINEERING CONTROLS: Use closed systems to contain VCM vapors during reclaim processing of this product. In addition, provide local exhaust ventilation where PVC dust and VCM vapor may be generated when closed systems are not feasible. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Use good hygiene practices when handling this material. For dusty operations or when manually handling this material, wear tight fitting chemical resistant safety goggles.

Skin and Body Protection: When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure, such as Tyvek®.

Hand Protection: As a good hygiene practice, wear appropriate chemical resistant gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types: Nitrile, Viton®, Telechem® HPS, Tychem® BR/LV, Tychem® TK

Respiratory Protection: A NIOSH approved respirator with N95 (dust, fume, mist) cartridges may be permissible under certain circumstances where airborne PVC dust concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. The added protection of a full face-piece respirator is required when visible dusty conditions are encountered and eye irritation may occur. The OSHA PEL for vinyl chloride could be exceeded when the product is stored and/or processed in areas that do not have adequate ventilation. Refer to 29 CFR 1910.1017 for selection of respirators for vinyl chloride. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

HYGIENE MEASURES: Handle in accordance with good industrial hygiene and safety practices. 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:	Solid
Color:	White to off-white
Odor:	Odorless
Molecular Formula:	(C2H3Cl)n
pH:	Not applicable
Melting Point/Range:	No data available
Freezing Point/Range:	Not applicable to solids
Flash point:	736 °F (391 °C)
Method:	ASTM D1929
Vapor Pressure:	Not applicable
Vapor Density (air=1):	Not applicable
Relative Density/Specific Gravity (water=1):	1.4
Density:	1.4 gm/cm3
Water Solubility:	Negligible
Partition Coefficient (n-octanol/water):	No data available
Auto-ignition Temperature:	849 °F (454 °C)
Decomposition Temperature:	No data available
Odor Threshold [ppm]:	No data available
Evaporation Rate (ether=1):	Not applicable
VOC Content (%):	No data available
Volatility:	Not applicable
Flammability (solid, gas):	Not flammable
Lower Flammability Level (air):	Not flammable
Upper Flammability Level (air):	Not flammable
Viscosity:	Not applicable to solids

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): Dust may form explosive mixture in air. VCM buildup in headspace of storage containers and processing equipment may cause electrostatic charge build up during handling and may form ignitable vapor-air mixtures in storage containers. Ground equipment in accordance with industry standards and best practices such as NFPA 77 [Recommended Practices on Static Electricity (2007)] and American Petroleum Institute (API) RP Recommended Practice 2003 [Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents (2008)]. Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

Incompatible Substances: PVC reacts violently with acetal and acetal copolymers. PVC reacts violently with fluorine.

Hazardous Decomposition Products: Hydrochloric acid, Carbon oxides, Small amounts of benzene and aromatic and aliphatic hydrocarbons, Phosgene.

Hazardous Polymerization: PVC is a stable polymer and will not further polymerize. This material will not depolymerize to form VCM.

SECTION 11. TOXICOLOGICAL INFORMATION

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POTENTIAL HEALTH EFFECTS:

ACUTE TOXICITY:
Vinyl chloride monomer (VCM) is NOT likely to be present at levels that would produce an acute biological effect when used in a well ventilated area. Acute biological effects of VCM include CNS and respiratory depression.

Eye contact: Eye Irritation. Eye exposure may cause mild irritation of the eyelids and conjunctiva. May cause eye irritation from the mechanical action of lodged particles.
Skin contact: This material is unlikely to cause chemical skin irritation. Skin irritation may occur due to mechanical action. Exposing skin to powder or fine particulate may cause slight redness, irritation.
Inhalation: No known effects. Inhalation of powder or fine particulates may cause irritation, cough.
Ingestion: No known effects. This material is practically non-toxic by the oral route.

CHRONIC TOXICITY:
The available evidence from experimental animals and from humans indicates that pure PVC is not metabolized in

mammals. Several studies have described pulmonary fibrosis from inhalation of high levels of respirable PVC particles. PVC resin particles generated by suspension polymerization are generally large enough in diameter that the majority are not considered respirable. Vinyl chloride monomer (VCM) may be present at levels that could produce a chronic biological effect. Chronic exposure to VCM may cause angiosarcoma of the liver, a rare form of liver cancer in humans, acroosteolysis of the hands (bone loss in the finger tips), and Raynaud's syndrome and may be associated with scleroderma-like symptoms. Long latent period may exist between exposure and symptom onset.

Chronic Effects: Chronic exposure to the respirable fraction (particles less than 10 microns in size) of PVC particles may produce pulmonary fibrosis. Particle sizes associated with suspension polymerization are typically greater than 10 microns in size. Product contains residual amounts of VCM, concentrations are less than 3.0%. Occupational overexposure to vinyl chloride monomer (VCM) has produced cancer (angiosarcoma of the liver) and changes in bones and skin, especially in the extremities such as the fingers (acroosteolysis). Additionally, repeated exposure to VCM may result in dose-related sensory disorders, nervous system effects, Raynaud's syndrome, blood system damage, hepatic-like liver changes, liver malfunction, and pulmonary insufficiency. Chronic exposure to vinyl chloride monomer (VCM) has caused changes to the musculoskeletal system.

SIGNS AND SYMPTOMS OF EXPOSURE:

Inhalation (Breathing): Respiratory System Effects: Inhalation of powders or fine particulates may cause respiratory tract irritation, cough. Inhalation of VCM may cause lightheadedness, dizziness, or other central nervous system effects. Repeated inhalation exposure to VCM vapors may result in alterations in liver enzymes.
Skin: Skin Irritation. Exposure of powder or fine particulates to skin may cause slight redness, irritation due to mechanical effect. Repeated dermal exposure to VCM vapors may result in alterations in liver enzymes.
Eye: Eye Irritation. Eye exposure may cause mild irritation of the eyelids and conjunctiva due to mechanical effect.
Ingestion (Swallowing): Ingestion is not a likely route of exposure.

Other Health Effects: Occupational asthma has been reported.

Interaction with Other Chemicals Which Enhance Toxicity: None known.

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GHS HEALTH HAZARDS:

GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):
Category 3 - May cause respiratory tract irritation
Category 3 - May cause drowsiness or dizziness
GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE):
Category 1 - Causes damage to the nervous system, musculoskeletal system, lymphatic system and respiratory system through prolonged or repeated exposure
Category 2 - May cause damage to lungs through prolonged or repeated exposure by inhalation
GHS: CARCINOGENICITY: Category 1A - May cause cancer
GHS: GERM CELL MUTAGENICITY: Category 2 - Suspected of causing genetic defects

TOXICITY DATA:

LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
No data available	No data available	No data available

Eye Irritation/Corrosion: VCM vapors may cause eye irritation; however, this material is not classified as an eye irritant per GHS criteria.

Skin Irritation/Corrosion: Slight skin irritation from mechanical friction from PVC particles may occur.

Skin Absorbent / Dermal Route: NO.
Product is not absorbed by skin (dermal route).

RESPIRATORY OR SKIN SENSITIZATION: Not classified as a skin or respiratory sensitizer per GHS criteria.

CARCINOGENICITY: This material contains vinyl chloride monomer (VCM) at high enough levels to be classified as a known human carcinogen per GHS classification criteria.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure): May cause respiratory tract irritation. May cause drowsiness or dizziness.

SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure): Chronic exposure to Vinyl Chloride monomer (VCM) may cause damage to the nervous system, respiratory system, musculoskeletal system, and lymphatic system. Fibrotic lung changes and altered pulmonary function tests have been reported in workers exposed to PVC dust for repeated and prolonged exposures.

INHALATION HAZARD: Inhalation of vinyl chloride vapors is associated with both acute and chronic health effects. A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

IN-VITRO / IN-VIVO GENOTOXICITY: Category 2 - Suspected of causing genetic defects.

REPRODUCTIVE TOXICITY: There are no known or recorded effects on reproductive function or fetal development. Not classified as a reproductive toxin per GHS criteria.

DEVELOPMENTAL TOXICITY: Not classified as a developmental or reproductive toxin per GHS criteria.

TOXICOKINETICS: The pattern of pulmonary elimination of 10 and 1000 ppm Vinyl Chloride is similar first-order kinetics, with half-lives of 20.4 and 22.4 minutes respectively. The half-lives for the initial phase of excretion of (14)°C radioactivity in urine were 4.6 and 4.1 hours, respectively.

METABOLISM: Vinyl Chloride is primarily and rapidly metabolized in the liver, and this metabolism is saturable. The first step in the metabolism of vinyl chloride is oxidation, which is predominantly mediated by human cytochrome P450 (CYP) 2E1, to form the highly reactive chloroethylene oxide, which can spontaneously rearrange to chloroacetaldehyde. Conjugation of chloroethylene oxide and chloroacetaldehyde with glutathione (GSH) eventually leads to the major urinary metabolites N-acetyl-S-(2-hydroxyethyl)cysteine and thiodiglycolic acid. Chloroethylene oxide and chloroacetaldehyde can also be detoxified to glycolaldehyde by microsomal epoxide hydrolase (mEH) and to the urinary metabolite chloroacetic acid by aldehyde dehydrogenase 2 (ALDH2), respectively.

BIOLOGICAL DISTRIBUTION: See Toxicokinetics above.

ENDOCRINE DISRUPTOR: Vinyl Chloride is listed on The Endocrine Disruptors Exchange's (TEDX) List of Potential Endocrine Disruptors database of chemicals with the potential to affect the endocrine system. Every chemical on the TEDX List has one or more verified citations published, accessible, primary scientific research demonstrating effects on the endocrine system.

NEUROTOXICITY: Neurotoxicity/ Neuropathological alterations were observed in rats exposed to 78,000 mg/ m3 vinyl chloride (4 hr/day, 5 days/week) for 12 months. During the exposure period, the rats were slightly soporific. Histopathology revealed diffuse degeneration in the gray and white matter of the brain and at the level of the white

matter zones of reactive gliosis. In the cerebellum, atrophy of the granular layer and degeneration of Purkinje cells were most prominent. In addition, peripheral nerve bundles were often surrounded and invaded by fibrotic processes.

IMMUNOTOXICITY: The major immunological abnormalities reported in vinyl chloride disease patients include hyperimmunoglobulinemia with a polyclonal increase in IgG, cryoglobulinemia, cryofibrinogenemia, and in vivo activation of complement.

Hazard Not Otherwise Classified (HNOC)-Health
• Repeat occupational exposure to Vinyl Chloride have been associated with Raynaud syndrome and associated scleroderma-like skin changes on the hands
• Vinyl Chloride is listed on The Endocrine Disruptors Exchange's (TEDX) List of Potential Endocrine Disruptors database of chemicals with the potential to affect the endocrine system. Every chemical on the TEDX List has one or more verified citations published, accessible, primary scientific research demonstrating effects on the endocrine system

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY (EC, IC, and LC):

Component:	*Freshwater Fish:*	*Invertebrate Toxicity:*	*Algae Toxicity:*	*Other Toxicity:*
Vinyl Chloride 75-01-4 (0.1 - 3 %)	*LC50 Brachydanio rerio: 210 mg/L 96h	-----	*EC50 Chilomonas paramecium (48 h) =943 mg/L	No data available

Aquatic Toxicity:
No data available. This material is believed to be practically non-toxic to aquatic life.

FATE AND TRANSPORT:

PERSISTENCE: Tropospheric half-life of vinyl chloride is estimated to be 23 hours. If released to air, this material will remain in the gas phase. PVC resin will persist in the environment.

BIODEGRADATION: PVC will not biodegrade. Vinyl chloride may degrade under anaerobic conditions.

BIOCONCENTRATION: This material will not bioconcentrate.

BIOACCUMULATIVE POTENTIAL: Based on the high molecular weight of this polymeric material, transport of this compound across biological membranes is unlikely. Accordingly, the probability of environmental toxicity or bioaccumulation in organisms is remote.

MOBILITY IN SOIL: Not expected to adsorb on soil.

ADDITIONAL ECOLOGICAL INFORMATION: This material is believed to be practically non-toxic to terrestrial organisms. PVC compounds may present harm to marine life when improperly disposed based on the compound formulation additives.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from material:
Reuse or reprocess, if possible. Incineration, preferably after mixing with another combustible fuel. Care must be exercised to assure complete combustion to prevent the formation of phosgene. An acid scrubber is necessary to remove the halo acids produced. May be subject to disposal regulations. Dispose of contents/ container in accordance with applicable local, regional, national, and/or international 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.

Contaminated Material:
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.

SECTION 14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

Status:	This material is regulated by the DOT when a single package contains a reportable quantity (RQ = 1 lb) of the hazardous substance Vinyl Chloride Monomer (UN 1086) If a package contains 1 pound or more of Vinyl Chloride Monomer (VCM), then it is subject to DOT hazardous materials regulations
UN NUMBER:	UN3077
PROPER SHIPPING NAME:	Environmentally hazardous substance, solid, n.o.s.(Vinyl Chloride Monomer)
HAZARD CLASS/ DIVISION:	9
PACKING GROUP:	III
LABELING REQUIREMENTS:	9
RQ (lbs.):	RQ 1 Lbs. (Vinyl chloride)

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

Status:	This material is regulated as an environmentally hazardous substance per TDG Appendix 5 when a single package contains a reportable quantity (RQ = 1 lb) of Vinyl Chloride Monomer (UN 1086) If a package contains 1 pound or more of Vinyl Chloride Monomer (VCM), then it is subject to Canadian Dangerous Goods regulations
UN NUMBER:	UN3077
SHIPPING NAME:	Environmentally hazardous substance, solid, n.o.s.(Vinyl Chloride Monomer)
CLASS OR DIVISION:	9

PACKING/RISK GROUP: III
LABELING REQUIREMENTS: 9
RQ (lbs): RQ 1 Lbs. (Vinyl chloride)

MARITIME TRANSPORT (IMO / IMDG)

Status - IMO / IMDG: This material is regulated as an environmentally hazardous substance when a single package contains a reportable quantity (RQ= 1 lb.) of Vinyl Chloride Monomer (UN1086). If a package contains 1 pound or more of Vinyl Chloride Monomer (VCM), then it is subject to Dangerous Goods regulations.

UN NUMBER: UN3077
PROPER SHIPPING NAME: Environmentally hazardous substance, solid, n.o.s.(Vinyl Chloride Monomer)
HAZARD CLASS / DIVISION: 9
Packing Group: III

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):
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 (TPQ)
Vinyl Chloride 75-01-4 (0.1 - 3)	1 lbs(RQ)	1 lb	Not listed	Not Listed

SARA EHS Chemical (40 CFR 355.30)
Not regulated.

EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.10):
Chronic Health Hazard, Acute Health Hazard

SARA HAZARD CATEGORIES ALIGNED WITH GHS (2018):
Health Hazard - Carcinogen
Health Hazard - Germ Cell Mutagenicity
Health Hazard - Specific Target Organ Toxicity (STOT) Single Exposure (SE)
Health Hazard - Specific Target Organ Toxicity (STOT) Repeat Exposure (RE)
Physical Hazard - HNOC

EPCRA SECTION 313 (40 CFR 372.65):

The following chemicals are listed in 40 CFR 372.65 and may be subject to Community Right-to Know Reporting requirements.

Component	SARA 313 - Emission Reporting	SARA 313 PBT
Vinyl Chloride 75-01-4 (0.1 - 3)	0.1% (de minimis concentration)	Not Listed

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

The following components are regulated under DHS:

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:
Vinyl Chloride 75-01-4 (0.1 - 3)	Release - Flammable	Not Listed	Not Listed	Not Listed	Not Listed	10000 lb STQ	1.0%Minimum Concentration	Not Listed

OSHA SPECIFICALLY REGULATED SUBSTANCES:

Processing and/or storage of this material may generate vinyl chloride exposures in excess of the OSHA Permissible Exposure Levels (PELs) for vinyl chloride. The workplace / workers should be monitored where this resin is stored and/or processed; if the level exceeds the PELs or action levels, refer to additional regulatory requirements in 29 CFR 1910.1017.

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

The PSM standard may apply to processes which involve a flammable liquid or gas in a quantity of 10,000 pounds (4535.9 kg) or more.

Component	EPA RMP Toxic or Flammable TPQ	PSM - Highly Hazardous Substances, Toxics and Reactives	Flash Point
Ethene, chloro-, homopolymer (PolyVinyl Chloride) 9002-86-2 (97 - 100)	Not Listed	Not Listed	
Vinyl Chloride 75-01-4 (0.1 - 3)	Flammable (10000 lb threshold quantity)	Not Listed	-78°Copen cup

EPA'S CLEAN WATER AND CLEAN AIR ACTS:

Regulated as noted in table below.

Component	Clean Water Act - Priority Pollutants	CAA - ODS CLASS 1 AND CLASS 2	CAA - Volatile Organic Compounds (VOCs) in SOCMI	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
Ethene, chloro-, homopolymer (PolyVinyl Chloride) 9002-86-2 (97 - 100 %)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Vinyl Chloride 75-01-4 (0.1 - 3 %)	Present	Not Listed	Present	Present	Present	Present	Not Listed	Flammable (10000 lb threshold quantity)

NATIONAL INVENTORY STATUS

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

OXYVINYLS® PVC HOMOPOLYMER SUSPENSION RESIN, HIGH RESIDUAL VCM 100R (OFF-GRADE CLASS III)

SDS No.: M45197 **Rev. Date:** 04-Feb-2021

Component	TSCA Inventory	TSCA ACTIVE LIST	TSCA 12(b)	TSCA - Section 4	TSCA - Section 5	TSCA - Section 6	TSCA - Section 8
Ethene, chloro-, homopolymer (PolyVinyl Chloride) 9002-86-2 (97 - 100 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not listed	Not listed
Vinyl Chloride 75-01-4 (0.1 - 3 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not listed	Not listed

CANADIAN CHEMICAL INVENTORY: All components of this product are listed on either the DSL or the NDSL.

Component	DSL	NDSL
Ethene, chloro-, homopolymer (PolyVinyl Chloride) 9002-86-2 (97 - 100)	Listed	Not Listed
Vinyl Chloride 75-01-4 (0.1 - 3)	Listed	Not Listed

STATE REGULATIONS

California Proposition 65:
This product contains a chemical known to the State of California to cause cancer. 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
Ethene, chloro-, homopolymer (PolyVinyl Chloride) 9002-86-2 (97 - 100 %)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Vinyl Chloride 75-01-4 (0.1 - 3 %)	Listed	Not Listed	Not Listed	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
Ethene, chloro-, homopolymer (PolyVinyl Chloride)	3622	Not Listed	Listed	Not Listed	Not Listed	Not Listed	Not Listed
Vinyl Chloride	2001	carcinogen; flammable - fourth degree; mutagen	Listed	Listed	Present	Present	Present

CANADIAN REGULATIONS

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:
Ethene, chloro-, homopolymer	Not listed	Not Listed	Not Listed	Listed	Not Listed

(PolyVinyl Chloride) 9002-86-2 (97 - 100)					
Vinyl Chloride 75-01-4 (0.1 - 3)	Present (009) Present (065)	Part 1, Group 1 Substance Part 4 Substance	Not Listed	Listed	Not Listed

SECTION 16. OTHER INFORMATION

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

Rev. Date: 04-Feb-2021

Reason for Revision:
• Scheduled review
• Change of company physical address: SEE SECTION 1
• Updated 24 Hour Emergency Telephone Number: SEE SECTION 1
• Trade Name has been deleted: SEE SECTION 1
• Updated Product Use information: SEE SECTION 1
• Updated Uses Advised Against information: SEE SECTION 1
• Added restrictions on use: See SECTION 1
• Emergency Overview was revised: SEE SECTION 2
• Added Hazards Not Otherwise Classified (HNOC): SEE SECTION 2
• Modified GHS Hazard and Precautionary Statements: SEE SECTION 2
• Component information has been changed. SEE SECTION 3
• Modified Fire Fighting Measure Recommendations: SEE SECTION 5
• Revised Accidental Release Measures: SEE SECTION 6
• Revised Handling and Storage Recommendations: SEE SECTION 7
• Modified Exposure Limit information: SEE SECTION 8
• Removed exposure level that was not applicable: SEE SECTION 8
• PPE recommendations have been modified: SEE SECTION 8
• Stability and Reactivity recommendations: SEE SECTION 10
• Added or updated conditions to avoid: 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
• Added or modified "OSHA Specifically Regulated Chemicals" statement: SEE SECTION 15
• Added SARA Hazard Categories Aligned with GHS (2018): SEE SECTION 15
• Revised California Proposition 65 Statement: SEE SECTION 15
• Updated TSCA Status Table: SEE SECTION 15
• Updated Canadian Regulatory information: 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

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