



SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY

Product name: POLYCO™ 2160 Emulsion

Issue Date: 04/23/2020

Print Date: 04/24/2020

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: POLYCO™ 2160 Emulsion

Recommended use of the chemical and restrictions on use

Identified uses: Coatings product

COMPANY IDENTIFICATION

THE DOW CHEMICAL COMPANY
2211 H.H. DOW WAY
MIDLAND MI 48674
UNITED STATES

Customer Information Number:

800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: CHEMTREC +1 800-424-9300

Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification

GHS classification in accordance with 29 CFR 1910.1200
Not a hazardous substance or mixture.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Vinyl Acrylic Latex

This product is a mixture.

Component	CASRN	Concentration
Vinyl acetate/acrylic copolymer	Not Hazardous	>= 49.0 - <= 51.0 %

vinyl acetate	108-05-4	< 0.09 %
Acetaldehyde	75-07-0	< 0.09 %
Individual acrylic monomers	Not Required	< 0.005 %
Aqua ammonia	1336-21-6	<= 0.1 %
Water	7732-18-5	49.0 - 51.0 %
C12-14 Fatty alkyl ether sulfate, sodium salt	68891-38-3	>= 1.0 - < 5.0 %

4. FIRST AID MEASURES

Description of first aid measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move to fresh air.

Skin contact: Wash with water and soap as a precaution. If skin irritation persists, call a physician.

Eye contact: Rinse with plenty of water. If eye irritation persists, consult a specialist.

Ingestion: Drink 1 or 2 glasses of water. Consult a physician if necessary. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire..

Unsuitable extinguishing media: None known..

Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon dioxide.. Carbon monoxide..

Unusual Fire and Explosion Hazards: Material can splatter above 100C/212F.. Dried product can burn..

Advice for firefighters

Fire Fighting Procedures: No data available

Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Keep people away from and upwind of spill/leak. Material can create slippery conditions.

Environmental precautions: CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Methods and materials for containment and cleaning up: Contain spills immediately with inert materials (e.g., sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Keep container tightly closed. Do not breathe vapors, mist or gas.

Conditions for safe storage: Keep from freezing - product stability may be affected. STIR WELL BEFORE USE.

Storage stability

Storage temperature: 1 - 49 °C (34 - 120 °F)

Other data: Monomer vapors can be evolved when material is heated during processing operations. See SECTION 8, for types of ventilation required. This material contains residual levels of vinyl acetate monomer and acetaldehyde. Lack of adequate ventilation may result in airborne levels of vinyl acetate monomer and/or acetaldehyde above established exposure limits in the workplace. Monitoring the workplace to determine actual vinyl acetate/acetaldehyde levels is recommended.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
vinyl acetate	Dow IHG	TWA	5 ppm
	Dow IHG	STEL	15 ppm
	ACGIH	TWA	10 ppm
Further information: A3: Confirmed animal carcinogen with unknown relevance to humans			

	ACGIH	STEL	15 ppm
	Further information: A3: Confirmed animal carcinogen with unknown relevance to humans		
	OSHA P0	TWA	30 mg/m3 10 ppm
	OSHA P0	STEL	60 mg/m3 20 ppm
Acetaldehyde	Dow IHG	C	10 ppm
	ACGIH	C	25 ppm
	Further information: A2: Suspected human carcinogen		
	OSHA Z-1	TWA	360 mg/m3 200 ppm
	OSHA P0	TWA	180 mg/m3 100 ppm
	OSHA P0	STEL	270 mg/m3 150 ppm
Aqua ammonia	Dow IHG	TWA	10 ppm, As Ammonia
	ACGIH	TWA	25 ppm, Ammonia
	ACGIH	STEL	35 ppm, Ammonia
	OSHA Z-1	TWA	35 mg/m3 50 ppm
	Further information: (b): The value in mg/m3 is approximate.		

Exposure controls

Engineering controls: Use local exhaust ventilation with a minimum capture velocity of 100 ft/min. (0.5 m/sec.) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility.

Individual protection measures

Eye/face protection: Safety glasses with side-shields. Eye protection worn must be compatible with respiratory protection system employed.

Skin protection

Hand protection: The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): Neoprene gloves

Respiratory protection: A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Up to 10 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator. Up to 50 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) full-facepiece, air-purifying respirator, OR full-facepiece, airline respirator in the pressure demand mode. Above 50 times the exposure limit or Unknown: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) ammonia/methylamine cartridges and N95 filters. If oil mist is present, use R95 or P95 filters.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	liquid milky
Color	white

Odor	Ammonia
Odor Threshold	No data available
pH	7 - 8
Melting point/range	0 °C (32 °F) Water
Freezing point	No data available
Boiling point (760 mmHg)	100 °C (212 °F) Water
Flash point	Noncombustible
Evaporation Rate (Butyl Acetate = 1)	<1 Water
Flammability (solid, gas)	Not Applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	17 mmHg at 20 °C (68 °F) Water
Relative Vapor Density (air = 1)	<1 Water
Relative Density (water = 1)	1.0 - 1.2
Water solubility	partly miscible
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic Viscosity	<100 mPa.s
Kinematic Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No data available
Percent volatility	49 - 51 % Water

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: None reasonably foreseeable.

Chemical stability: Stable

Possibility of hazardous reactions: Product will not undergo polymerization.

Conditions to avoid: No data available

Incompatible materials: There are no known materials which are incompatible with this product.

Hazardous decomposition products: Thermal decomposition may yield the following:
acetaldehyde. acrylic monomers. vinyl acetate monomer.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Information on likely routes of exposure

Inhalation, Eye contact, Skin contact.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

Based on testing for product(s) in this family of materials:

LD50, Rat, male and female, > 5,000 mg/kg No deaths occurred at this concentration.

Information for components:

vinyl acetate

LD50, Rat, 2,500 - 3,000 mg/kg Estimated.

Acetaldehyde

LD50, Rat, 660 mg/kg

Aqua ammonia

Single dose oral LD50 has not been determined.

C12-14 Fatty alkyl ether sulfate, sodium salt

LD50, Rat, male and female, 4,100 mg/kg

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Based on testing for product(s) in this family of materials:

LD50, Rat, male and female, > 2,000 mg/kg OECD 402 or equivalent No deaths occurred at this concentration.

Information for components:

vinyl acetate

LD50, Rabbit, male, 7,440 mg/kg

Acetaldehyde

The dermal LD50 has not been determined.

Aqua ammonia

The dermal LD50 has not been determined.

C12-14 Fatty alkyl ether sulfate, sodium salt

LD50, Rat, male and female, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

With good ventilation, single exposure is not expected to cause adverse effects. If material is heated or areas are poorly ventilated, vapor/mist may accumulate and cause respiratory irritation and symptoms such as headache and nausea.

As product: The LC50 has not been determined.

Information for components:**vinyl acetate**

LC50, Rat, 4 Hour, vapour, 14.084 - 15.810 mg/l

Acetaldehyde

LC50, Rat, 4 Hour, vapour, 24 mg/l

Aqua ammonia

The LC50 has not been determined.

C12-14 Fatty alkyl ether sulfate, sodium salt

The LC50 has not been determined.

Skin corrosion/irritation

Based on testing for product(s) in this family of materials:

Brief contact is essentially nonirritating to skin.

Prolonged contact may cause slight skin irritation with local redness.

Material may stick to skin causing irritation upon removal.

Information for components:**vinyl acetate**

Brief contact is essentially nonirritating to skin.

Prolonged contact may cause severe skin irritation with local redness and discomfort.

May cause rash or blisters.

Acetaldehyde

Brief contact is essentially nonirritating to skin.

Prolonged contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.

Aqua ammonia

Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

Classified as corrosive to the skin according to DOT guidelines.

C12-14 Fatty alkyl ether sulfate, sodium salt

Brief contact may cause moderate skin irritation with local redness.

Serious eye damage/eye irritation

Based on testing for product(s) in this family of materials:

Essentially nonirritating to eyes.

Information for components:

vinyl acetate

May cause slight eye irritation.

May cause slight corneal injury.

Vapor may cause eye irritation experienced as mild discomfort and redness.

Acetaldehyde

Liquid may cause severe eye irritation with corneal injury. Corneal burns may occur.

Vapor may cause severe eye irritation and corneal injury.

Vapor may cause lacrimation (tears).

Vapors may cause sensitivity to light and/or blurred vision.

Aqua ammonia

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

C12-14 Fatty alkyl ether sulfate, sodium salt

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Sensitization

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

Information for components:

vinyl acetate

Skin contact may cause an allergic skin reaction in a small proportion of individuals.

Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

Acetaldehyde

For skin sensitization:

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Aqua ammonia

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

C12-14 Fatty alkyl ether sulfate, sodium salt

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Information for components:

vinyl acetate

May cause respiratory irritation.

Route of Exposure: Inhalation

Target Organs: Respiratory Tract

Acetaldehyde

May cause respiratory irritation.

Route of Exposure: Inhalation

Target Organs: Respiratory Tract

Aqua ammonia

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

C12-14 Fatty alkyl ether sulfate, sodium salt

Available data are inadequate to determine single exposure specific target organ toxicity.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

Information for components:

vinyl acetate

Based on available information, aspiration hazard could not be determined.

Acetaldehyde

Based on physical properties, not likely to be an aspiration hazard.

Aqua ammonia

Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

C12-14 Fatty alkyl ether sulfate, sodium salt

Based on physical properties, not likely to be an aspiration hazard.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

No relevant data found.

Information for components:

vinyl acetate

In animals, effects have been reported on the following organs:

Lung.

Respiratory tract.

Acetaldehyde

In animals, effects have been reported on the following organs:

Heart.

Kidney.

Respiratory tract.

Observations in animals include:

Increased blood pressure.

Aqua ammonia

No relevant data found.

C12-14 Fatty alkyl ether sulfate, sodium salt

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Carcinogenicity

No relevant data found.

Information for components:

vinyl acetate

Vinyl acetate has caused cancer in some laboratory animals exposed to high vapor levels in long-term studies; tumors and other respiratory tract lesions occurred secondarily to chronic irritation. Vinyl acetate has caused tumors of the gastrointestinal tract in a drinking water study. Tumors occurred only at high doses, and mechanistic studies indicate that they occurred secondarily to irritation.

Acetaldehyde

Has caused cancer in laboratory animals.

Aqua ammonia

Did not cause cancer in laboratory animals.

C12-14 Fatty alkyl ether sulfate, sodium salt

For similar material(s): Did not cause cancer in laboratory animals.

Carcinogenicity

Component

List

Classification

vinyl acetate

IARC

Group 2B: Possibly carcinogenic to humans

ACGIH

A3: Confirmed animal carcinogen with unknown relevance to humans.

Acetaldehyde

IARC

Group 2B: Possibly carcinogenic to humans

US NTP

Reasonably anticipated to be a human carcinogen

ACGIH

A2: Suspected human carcinogen

Teratogenicity

No relevant data found.

Information for components:

vinyl acetate

Did not cause birth defects or any other fetal effects in laboratory animals.

Acetaldehyde

No relevant data found.

Aqua ammonia

No relevant data found.

C12-14 Fatty alkyl ether sulfate, sodium salt

Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity

No relevant data found.

Information for components:

vinyl acetate

In animal studies, did not interfere with reproduction.

Acetaldehyde

No relevant data found.

Aqua ammonia

No relevant data found.

C12-14 Fatty alkyl ether sulfate, sodium salt

In animal studies, did not interfere with reproduction.

Mutagenicity

No relevant data found.

Information for components:

vinyl acetate

In vitro genetic toxicity studies were negative in some cases and positive in other cases.

Animal genetic toxicity studies were negative.

Acetaldehyde

In vitro genetic toxicity studies were negative in some cases and positive in other cases.

Animal genetic toxicity studies were negative in some cases and positive in other cases.

Aqua ammonia

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

C12-14 Fatty alkyl ether sulfate, sodium salt

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

vinyl acetate**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Pimephales promelas (fathead minnow), 96 Hour, 19 - 28 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), semi-static test, 48 Hour, 12.6 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 12.7 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC50, Bacteria, 16 Hour, 380 mg/l

Chronic toxicity to fish

NOEC, Pimephales promelas (fathead minnow), flow-through, 34 d, 0.16 mg/l

Acetaldehyde**Acute toxicity to fish**

LC50, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 30.8 - 37.2 mg/l

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 48.3 mg/l

Acute toxicity to algae/aquatic plants

EC50, Freshwater algae (Anabaena fols-aquae), 240 Hour, 4,528 - 16,244 mg/l

Toxicity to bacteria

EC50, Photobacterium phosphoreum, 0.08 Hour, 342 mg/l

Aqua ammonia**Acute toxicity to fish**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.

LC50, Lepomis macrochirus (Bluegill sunfish), 96 Hour, 0.87 mg/l

LC50, Pimephales promelas (fathead minnow), 96 Hour, 1.2 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 0.66 mg/l

C12-14 Fatty alkyl ether sulfate, sodium salt**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Danio rerio (zebra fish), flow-through, 96 Hour, 7.1 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, Daphnia pulex (Water flea), static test, 48 Hour, 7.4 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EC50, Algae (Scenedesmus subspicatus), 72 Hour, Growth rate inhibition, 27.7 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC10, Pseudomonas putida, Growth inhibition, 16 Hour, Growth inhibition, > 10 mg/l, DIN 38 412 Part 8

Chronic toxicity to fish

Based on data from similar materials

EC10, Oncorhynchus mykiss (rainbow trout), 45 d, 0.69 mg/l

Chronic toxicity to aquatic invertebrates

Based on data from similar materials

NOEC, Daphnia magna (Water flea), 21 d, 0.18 mg/l

Persistence and degradability**vinyl acetate**

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Not applicable

Biodegradation: 82 - 98 %

Exposure time: 14 d

Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 1.67 mg/mg

Chemical Oxygen Demand: 1.53 - 1.77 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	34 - 61 %
10 d	34 - 74 %
20 d	32 - 95 %

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitization: OH radicals

Atmospheric half-life: 9.7 - 12 Hour

Method: Estimated.

Acetaldehyde

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Not applicable

Biodegradation: 80 %

Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 1.82 mg/mg

Chemical Oxygen Demand: 0.63 mg/mg Dichromate
0.14 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 7.6 Hour
Method: Estimated.

Aqua ammonia

Biodegradability: Biodegradation may occur under aerobic conditions (in the presence of oxygen). Biodegradation rate may increase in soil and/or water with acclimation.

Theoretical Oxygen Demand: 0.76 mg/mg

C12-14 Fatty alkyl ether sulfate, sodium salt

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: 100 %
Exposure time: 28 d
Method: CO2 Evolution Test

Bioaccumulative potential

vinyl acetate

Bioaccumulation: Bioconcentration potential is low ($BCF < 100$ or $\log Pow < 3$).
Partition coefficient: n-octanol/water(log Pow): 0.73 Measured
Bioconcentration factor (BCF): 3.16 Fish Estimated.

Acetaldehyde

Bioaccumulation: Bioconcentration potential is low ($BCF < 100$ or $\log Pow < 3$).
Partition coefficient: n-octanol/water(log Pow): -0.34 Measured

Aqua ammonia

Bioaccumulation: No bioconcentration is expected because of the relatively high water solubility.

C12-14 Fatty alkyl ether sulfate, sodium salt

Bioaccumulation: Bioconcentration potential is low ($BCF < 100$ or $\log Pow < 3$).
Partition coefficient: n-octanol/water(log Pow): 0.3 OECD Test Guideline 123

Mobility in soil

vinyl acetate

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 24 Estimated.

Acetaldehyde

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 1.5 Estimated.

Aqua ammonia

Potential for mobility in soil is very high (Koc between 0 and 50).

C12-14 Fatty alkyl ether sulfate, sodium salt

No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: Coagulate the emulsion by the stepwise addition of ferric chloride and lime. Remove the clear supernatant and flush to a chemical sewer. For disposal, incinerate or landfill at a permitted facility in accordance with local, state, and federal regulations.

Contaminated packaging: Empty containers retain product residues. Follow label warnings even after container is emptied. Improper disposal or reuse of this container may be dangerous and illegal. Refer to applicable federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

**Transport in bulk
according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code**

Not regulated for transport
Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

No SARA Hazards

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania

Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

California Prop. 65

WARNING: This product can expose you to chemicals including Acetaldehyde, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System

HMIS

Health	Flammability	Physical Hazard
1	0	0

Revision

Identification Number: 11116735 / A001 / Issue Date: 04/23/2020 / Version: 6.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
C	Ceiling limit
Dow IHG	Dow Industrial Hygiene Guideline
OSHA P0	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
STEL	Short term exposure limit
TWA	Time weighted average

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

US