



Material Safety Data Sheet

The Dow Chemical Company

Product Name: DOWICIDE* OBCP/IPA ANTIMICROBIAL SOLUTION

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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. Product and Company Identification

Product Name

DOWICIDE* OBCP/IPA ANTIMICROBIAL SOLUTION

COMPANY IDENTIFICATION

The Dow Chemical Company
2030 Willard H. Dow Center
Midland, MI 48674
USA

Customer Information Number: 800-258-2436

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 989-636-4400

Local Emergency Contact: 989-636-4400

2. Hazards Identification

Emergency Overview

Color: Yellow

Physical State: Liquid

Odor: mild phenolic

Hazards of product:

DANGER! Flammable liquid and vapor. Causes severe eye burns. Causes skin burns. Keep upwind of spill. Harmful if inhaled. May be harmful if absorbed through skin. May cause central nervous system effects. Aspiration hazard. Can enter lungs and cause damage. Toxic fumes may be released in fire situations.

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Health Effects

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

* Indicates a Trademark

experienced as mild discomfort and redness. Vapor may cause lacrimation (tears). May cause pain disproportionate to the level of irritation to eye tissues.

Skin Contact: Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage. May cause depigmentation (white patches on skin). May cause drying and flaking of the skin.

Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts. Repeated skin contact may result in absorption of harmful amounts.

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

Inhalation: In confined or poorly ventilated areas, vapor can readily accumulate and can cause unconsciousness and death. Vapor from heated material may cause respiratory irritation. Excessive exposure may cause irritation to upper respiratory tract (nose and throat). Excessive exposure (400 ppm) to isopropanol may cause eye, nose and throat irritation. Incoordination, confusion, hypotension, hypothermia, circulatory collapse, respiratory arrest and death may follow a longer duration or higher levels. Observations in animals include middle ear lining damage upon exposure to vapors of isopropanol. However, the relevance of this to humans is unknown

Ingestion: Swallowing may result in gastrointestinal irritation or ulceration. Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury. May cause central nervous system effects. May cause nausea and vomiting. Observations in animals include: diarrhea, excessive urination

Effects of Repeated Exposure: Symptoms may include convulsions or seizures. Based on information for component(s): In animals, effects have been reported on the following organs: Kidney. Liver. Observations in animals include middle ear lining damage upon exposure to vapors of isopropanol. However, the relevance of this to humans is unknown. Isopropanol exposure may increase the toxicity of subsequent exposures to hepatotoxic chlorinated aliphatic hydrocarbons such as carbon tetrachloride.

Cancer Information: In an NTP skin painting study, OBCP had no activity as a cancer initiator or as a complete carcinogen. Following application of a known initiator, DMBA, NTP characterized OBCP as a weak promotor of skin tumors on mice. OBCP has been shown to cause some evidence of kidney cancer in male mice and equivocal evidence of kidney cancer in female rats following oral administration. These effects were only observed at very high levels which resulted in kidney toxicity. In the same study, there was no evidence of cancer in male rats and female mice following oral administration.

Birth Defects/Developmental Effects: Isopropanol has been toxic to the fetus in laboratory animals at doses toxic to the mother.

3. Composition Information

Component	CAS #	Amount
4-Chloro-2-(phenylmethyl)phenol	120-32-1	>= 70.0 - <= 75.0 %
Isopropanol	67-63-0	>= 20.0 - <= 25.0 %

4. First-aid measures

Eye Contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.

Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Obtain medical attention without delay. Wash clothing before reuse. Destroy contaminated articles such as shoes.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice. If breathing is difficult, oxygen should be administered by qualified personnel.

Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth to an unconscious person.

Notes to Physician: Probable mucosal damage may contraindicate the use of gastric lavage. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. Measures against circulatory shock, respiratory depression, and convulsion may be needed. Further amounts of this material may be removed from the skin by repeatedly spraying/swabbing the skin with polyethylene glycol or polypropylene glycol mixture, alternating with rinsing with large quantities of water for 30 minutes. Example decontamination mixtures include PEG300/ethanol (or industrial methylated spirits) 2:1, or available polypropylene/rapeseed oil proprietary mixtures, or polyvinylpyrrolidone/detergent mixtures. If burn is present, treat as any thermal burn, after decontamination. Maintain adequate ventilation and oxygenation of the patient. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. Attempt seizure control with diazepam 5-10 mg (adults) intravenous over 2-3 minutes. Repeat every 5-10 minutes as needed. Monitor for hypotension, respiratory depression, and need for intubation. Consider second agent if seizures persist after 30 mg. If seizures persist or recur administer phenobarbital 600-1200 mg (adults) intravenous diluted in 60 ml 0.9% saline given at 25-50 mg/minute. Evaluate for hypoxia, dysrhythmia, electrolyte disturbance, hypoglycemia (treat adults with dextrose 100 mg intravenous). Consider hemodialysis for patients with persistent hypotension or coma unresponsive to standard therapy (isopropanol levels >400 - 500 mg/dl). (Goldfrank 1998, King et al, 1970). No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Medical Conditions Aggravated by Exposure: Skin contact may aggravate preexisting dermatitis.

5. Fire Fighting Measures

Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. Water fog, applied gently may be used as a blanket for fire extinguishment.

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Do not use direct water stream. May spread fire. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water fog, applied gently may be used as a blanket for fire extinguishment.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

Unusual Fire and Explosion Hazards: Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Flammable mixtures may exist within the vapor space of containers at room temperature. Flammable concentrations of vapor can accumulate at temperatures above flash point; see Section 9. Dense smoke is produced when product burns.

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Phenolics. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Benzene compounds.

6. Accidental Release Measures

Steps to be Taken if Material is Released or Spilled: Contain spilled material if possible. Collect in suitable and properly labeled containers. Apply vapor suppression foams until spill can be cleaned up.

Ground and bond all containers and handling equipment. Pump with explosion-proof equipment. If available, use foam to smother or suppress. See Section 13, Disposal Considerations, for additional information.

Personal Precautions: Isolate area. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Keep upwind of spill. Keep personnel out of low areas. For large spills, warn public of downwind explosion hazard. Keep unnecessary and unprotected personnel from entering the area. No smoking in area. Ventilate area of leak or spill. Vapor explosion hazard. Keep out of sewers. Stay out of low areas. Keep personnel out of confined or poorly ventilated areas. Only trained and properly protected personnel must be involved in clean-up operations. Confined space entry procedures must be followed before entering the area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling, for additional precautionary measures.

Environmental Precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

7. Handling and Storage

Handling

General Handling: Keep away from heat, sparks and flame. Avoid contact with eyes. Avoid breathing vapor. Do not swallow. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Do not enter confined spaces unless adequately ventilated. Never use air pressure for transferring product. No smoking, open flames or sources of ignition in handling and storage area. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Ignition sources can include and are not limited to pilot lights, flames, smoking, sparks, heaters, electrical equipment, and static discharges. Electrically bond and ground all containers and equipment before transfer or use of material. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Other Precautions: Never use air pressure for transferring product. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Electrically bond and ground all containers and equipment before transfer or use of material. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

Storage

Keep container closed. Avoid direct sunlight. Peroxides can form if this product is stored in contact with air. Peroxides can be explosive. Minimize sources of ignition, such as static build-up, heat, spark or flame.

Shelf life: Use within, Bulk 6 Months

Metal drums. 12 Months

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
Isopropanol	ACGIH	TWA	200 ppm
	ACGIH	STEL	400 ppm
	OSHA Table Z-1	PEL	980 mg/m3 400 ppm

Personal Protection

Eye/Face Protection: Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator. Eye wash fountain should be located in immediate work area.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Polyethylene. Neoprene. Chlorinated polyethylene. Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Polyvinyl alcohol ("PVA"). **NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use an approved air-purifying or positive-pressure supplied-air respirator depending on the potential airborne concentration. For emergency and other conditions where the exposure guideline may be exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply. The following should be effective types of air-purifying respirators: Organic vapor cartridge.

Ingestion: Avoid ingestion of even very small amounts; do not consume or store food or tobacco in the work area; wash hands and face before smoking or eating.

Engineering Controls

Ventilation: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Lethal concentrations may exist in areas with poor ventilation.

9. Physical and Chemical Properties

Physical State	Liquid
Color	Yellow
Odor	mild phenolic
Flash Point - Closed Cup	32 °C (90 °F) <i>Literature</i>
Flammable Limits In Air	Lower: No test data available Upper: No test data available
Autoignition Temperature	No test data available
Vapor Pressure	No test data available
Boiling Point (760 mmHg)	82 °C (180 °F) <i>Literature</i> .
Vapor Density (air = 1)	No test data available
Specific Gravity (H2O = 1)	1.08 - 1.09 <i>Literature</i>
Freezing Point	0 °C (32 °F) <i>Literature</i>
Melting Point	Not applicable to liquids
Solubility in Water (by weight)	Insoluble
pH	7.2 <i>Literature</i>
Dynamic Viscosity	48 cps @ 22 °C (Brookfield Viscosity)

10. Stability and Reactivity

Stability/Instability

Thermally stable at typical use temperatures.

Conditions to Avoid: Exposure to elevated temperatures can cause product to decompose.

Incompatible Materials: Avoid contact with oxidizing materials.

Hazardous Polymerization

Will not occur.

Thermal Decomposition

Decomposition products depend upon temperature, air supply and the presence of other materials.

11. Toxicological Information

Acute Toxicity

Ingestion

Single dose oral LD50 has not been determined.

Skin Absorption

The dermal LD50 has not been determined.

Sensitization

Skin

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

Repeated Dose Toxicity

Symptoms may include convulsions or seizures. Based on information for component(s): In animals, effects have been reported on the following organs: Kidney. Liver. Observations in animals include middle ear lining damage upon exposure to vapors of isopropanol. However, the relevance of this to humans is unknown. Isopropanol exposure may increase the toxicity of subsequent exposures to hepatotoxic chlorinated aliphatic hydrocarbons such as carbon tetrachloride.

Chronic Toxicity and Carcinogenicity

In an NTP skin painting study, OBCP had no activity as a cancer initiator or as a complete carcinogen. Following application of a known initiator, DMBA, NTP characterized OBCP as a weak promotor of skin tumors on mice. OBCP has been shown to cause some evidence of kidney cancer in male mice and equivocal evidence of kidney cancer in female rats following oral administration. These effects were only observed at very high levels which resulted in kidney toxicity. In the same study, there was no evidence of cancer in male rats and female mice following oral administration.

Developmental Toxicity

Isopropanol has been toxic to the fetus in laboratory animals at doses toxic to the mother. For the major component(s): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive Toxicity

Contains component(s) which did not interfere with reproduction in animal studies.

Genetic Toxicology

For the major component(s): In vitro genetic toxicity studies were predominantly negative. For the minor component(s) In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

12. Ecological Information

CHEMICAL FATE

Data for Component: 4-Chloro-2-(phenylmethyl)phenol

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is slight (Koc between 2000 and 5000).

Henry's Law Constant (H): 9.96E-9 atm*m3/mole Estimated

Partition coefficient, n-octanol/water (log Pow):

Bioconcentration Factor (BCF): 75; fish; Measured

Persistence and Degradability

Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%). Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
			69 %

Theoretical Oxygen Demand: 2.19 mg/mg

Data for Component: **Isopropanol**

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

Henry's Law Constant (H): 3.38E-6 - 8.07E-6 atm*m3/mole; 25 °C Estimated

Partition coefficient, n-octanol/water (log Pow): 0.05 Measured

Partition coefficient, soil organic carbon/water (Koc): 1.1 Estimated

Persistence and Degradability

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

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
7.26E-12 cm3/s	1.472 d	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
95 %	21 d	OECD 301E Test

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
20 - 72 %		78 - 86 %	

Chemical Oxygen Demand: 2.09 mg/mg

Theoretical Oxygen Demand: 2.40 mg/mg

ECOTOXICITY

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in most sensitive species tested). Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity

LC50, rainbow trout (*Oncorhynchus mykiss*), 96 h

13. Disposal Considerations

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. DOW HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Group at 1-800-258-2436 or 1-989-832-1556 (U.S.), or 1-800-331-6451 (Canada) for further details.

14. Transport Information

DOT Non-Bulk

Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.

Technical Name: CONTAINS ISOPROPANOL, ORTHO-BENZYL-PARA-CHLOROPHENOL

Hazard Class: 3 (8) **ID Number:** UN2924 **Packing Group:** PG III

DOT Bulk

Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, NOS

Technical Name: CONTAINS ISOPROPANOL, ORTHO-BENZYL-PARA-CHLOROPHENOL

Hazard Class: 3 (8) **ID Number:** UN2924 **Packing Group:** PG III

IMDG

Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.

Technical Name: CONTAINS ISOPROPANOL, ORTHO-BENZYL-PARA-CHLOROPHENOL

Hazard Class: 3 (8) **ID Number:** UN2924 **Packing Group:** PG III

EMS Number: F-A,S-G

Marine pollutant.: Yes

ICAO/IATA

Proper Shipping Name: FLAMMABLE LIQUID, CORROSIVE, N.O.S.

Technical Name: CONTAINS ISOPROPANOL, ORTHO-BENZYL-PARA-CHLOROPHENOL

Hazard Class: 3 (8) **ID Number:** UN2924 **Packing Group:** PG III

Cargo Packing Instruction: 310

Passenger Packing Instruction: 309

Additional Information

MARINE POLLUTANT

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. 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

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Fire Hazard	Yes
Reactive Hazard	No
Sudden Release of Pressure Hazard	No

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

This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Component	CAS #	Amount
Isopropanol	67-63-0	>= 20.0 - <= 25.0 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount
Isopropanol	67-63-0	>= 20.0 - <= 25.0 %

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

This product contains the following substances which are subject to CERCLA Section 103 reporting requirements and which are listed in 40 CFR 302.4.

Component	CAS #	Amount
Isopropanol	67-63-0	>= 20.0 - <= 25.0 %

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Toxic Substances Control Act (TSCA)

This product contains chemical substance(s) exempt from TSCA Inventory requirements. It is sold solely for use as a pesticide subject to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements.

CEPA - Domestic Substances List (DSL)

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. Other Information

Hazard Rating System

NFPA	Health	Fire	Reactivity
	3	3	0

Revision

Identification Number: 50698 / 1001 / Issue Date 06/22/2007 / Version: 2.1

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

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ_DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

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.