



# Material Safety Data Sheet

The Dow Chemical Company

**Product Name:** DOWICIDE\* OBCP ANTIMICROBIAL FLAKE

**Issue Date:** 08/17/2007  
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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 ANTIMICROBIAL FLAKE

### 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:** White to yellow

**Physical State:** Flakes

**Odor:** mild phenolic

### Hazards of product:

DANGER! Keep out of reach of children. Corrosive. CAUSES IRREVERSIBLE EYE DAMAGE. Causes skin burns. Harmful if swallowed. Causes burns of the mouth and throat. Keep upwind of spill. May be harmful if absorbed through skin. May form explosive dust-air mixture. Highly toxic to fish and/or other aquatic organisms. 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.

\* Indicates a Trademark

**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).

**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:** Excessive exposure may cause irritation to upper respiratory tract (nose and throat). Vapor from heated material may cause respiratory irritation.

**Ingestion:** Swallowing may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat. Observations in animals include: diarrhea, excessive urination

**Effects of Repeated Exposure:** Symptoms may include convulsions or seizures. For the major component(s): In animals, effects have been reported on the following organs: Kidney.

**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.

### 3. Composition Information

Component	CAS #	Amount
4-Chloro-2-(phenylmethyl)phenol	120-32-1	> 95.0 %
Inerts		> 1.0 %

### 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. 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). No specific

antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

## 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. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Cool surroundings with water to localize fire zone. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**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:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Do not permit dust to accumulate. When suspended in air dust can pose an explosion hazard. Minimize ignition sources. If dust layers are exposed to elevated temperatures, spontaneous combustion may occur. 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: Phenolic compounds. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Aromatic hydrocarbons.

## 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. See Section 13, Disposal Considerations, for additional information.

**Personal Precautions:** Evacuate area. Keep upwind of spill. Ventilate area of leak or spill. Refer to Section 7, Handling, for additional precautionary measures. Spilled material may cause a slipping hazard. Only trained and properly protected personnel must be involved in clean-up operations. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**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:** Do not get in eyes. Do not breathe dust. Do not get on skin or clothing. Do not swallow. Keep away from heat, sparks and flame. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION. Good housekeeping and controlling of dusts are necessary for safe handling of product.

**Storage**

Store in a dry place. See Section 10 for more specific information.

## 8. Exposure Controls / Personal Protection

**Exposure Limits**

None established

**Personal Protection**

**Eye/Face Protection:** Use chemical goggles. 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: Neoprene. Nitrile. Polyvinyl chloride ("PVC" or "vinyl").

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:** For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

**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.

## 9. Physical and Chemical Properties

<b>Physical State</b>	Flakes
<b>Color</b>	White to yellow
<b>Odor</b>	mild phenolic
<b>Flash Point - Closed Cup</b>	188 °C (370 °F) <i>Supplier</i>
<b>Flash Point - Open Cup</b>	370 °F (370 °F) <i>Open Cup</i>
<b>Flammable Limits In Air</b>	<b>Lower:</b> No test data available <b>Upper:</b> No test data available
<b>Autoignition Temperature</b>	No test data available
<b>Vapor Pressure</b>	0.1 mmHg @ 100 °C <i>Supplier</i>
<b>Boiling Point (760 mmHg)</b>	327 °C (621 °F) <i>Supplier</i> .
<b>Vapor Density (air = 1)</b>	No test data available
<b>Specific Gravity (H<sub>2</sub>O = 1)</b>	1.02 <i>Supplier</i>
<b>Freezing Point</b>	No test data available
<b>Melting Point</b>	81 - 118 °C (178 - 244 °F) <i>Supplier</i>
<b>Solubility in Water (by weight)</b>	0.0007 % <i>Supplier</i>
<b>pH</b>	6 - 7 <i>Supplier</i>

## 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: Oxidizers.

### 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.

For the major component(s): LD50, Rat 1,700 mg/kg

#### Skin Absorption

The dermal LD50 has not been determined.

For the major component(s): LD50, Rabbit > 2,000 mg/kg

#### Inhalation

For the major component(s): LC50, Rat 2.5 mg/l

### 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. For the major component(s): In animals, effects have been reported on the following organs: Kidney.

### 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

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.

### Genetic Toxicology

For the major component(s): In vitro genetic toxicity studies were predominantly 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

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

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).

**Fish Acute & Prolonged Toxicity**

LC50, rainbow trout (*Oncorhynchus mykiss*), 96 h: 0.43 - 0.72 mg/l

LC50, bluegill (*Lepomis macrochirus*), 96 h: 0.26 - 0.33 mg/l

**Aquatic Invertebrate Acute Toxicity**

EC50, water flea *Daphnia magna*, 48 h: 0.46 - 0.59 mg/l

**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 option is to contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. The preferred option in other jurisdictions is to contact the regulatory authority for this product for guidance. 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:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S

**Technical Name:** ORTHO-BENZYL-PARA-CHLOROPHENOL

**Hazard Class:** 9 **ID Number:** UN3077 **Packing Group:** PG III

**DOT Bulk**

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, NOS

**Technical Name:** ORTHO-BENZYL-PARA-CHLOROPHENOL

**Hazard Class:** 9 **ID Number:** UN3077 **Packing Group:** PG III

**IMDG**

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S

**Technical Name:** ORTHO-BENZYL-PARA-CHLOROPHENOL

**Hazard Class:** 9 **ID Number:** UN3077 **Packing Group:** PG III

**EMS Number:** F-A,S-F

Marine pollutant.: Yes

**ICAO/IATA**

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S

**Technical Name:** ORTHO-BENZYL-PARA-CHLOROPHENOL

**Hazard Class:** 9 **ID Number:** UN3077 **Packing Group:** PG III

**Cargo Packing Instruction:** 911

**Additional Information**

CHLOROPHENYLATED FLAKE

*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**

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

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

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

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

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

**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.

**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.

**US. Toxic Substances Control Act**

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**

<b>NFPA</b>	<b>Health</b>	<b>Fire</b>	<b>Reactivity</b>
	3	1	0

**Revision**

Identification Number: 50697 / 1001 / Issue Date 08/17/2007 / Version: 3.1

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.*