



# SAFETY DATA SHEET

## DREXEL KOP-HYDROXIDE™ A FLOWABLE FUNGICIDE

### Section 1: Material Identification

**Product Name:** Drexel KOP-Hydroxide™ A Flowable Fungicide

**EPA Reg No.:** 19713-301

**CAS NO:** 20427-59-2

**Formula:** CuH<sub>2</sub>O<sub>2</sub>

**Company:** Drexel Chemical Company  
1700 Channel Avenue  
Memphis, TN 38106

**Synonyms:** Copper Hydroxide  
Cupric Hydroxide

**Identifiers:**

**EINECS:** 243-815-9

**RTECS:** GL7600000

**DOT information:** See Section 14 for Transportation Information

#### Emergency Telephone Number:

CHEMTREC	Drexel Chemical Co.
Tel: 1-800-424-9300	901-774-4370

This product is an EPA FIFRA registered pesticide. Some of the classifications on this SDS are not the same as the FIFRA label. Certain sections of this SDS are superseded by federal law governed by EPA for a registered pesticide. Please see **Section 15: REGULATORY INFORMATION** for explanation.

### Section 2: Hazard Identification (As defined by the OSHA Hazard Communication Standard, 29)

<b>GHS classification:</b>		
<b>Health hazards:</b>	Acute toxicity - inhalation	Category 4
	Eye damage/irritation	Category 2B
<b>Physical hazards:</b>	Aquatic toxicity - acute	Category 1
	Aquatic environment – Long-term hazard	Category 2

**GHS label elements:**

**Signal word:** Warning



**Hazard statements:** Harmful if swallowed.  
Causes eye irritation.  
Very toxic to aquatic life.

**Precautionary statements:**

**Prevention:** Avoid breathing mist. Use only outdoors or in a well-ventilated area.  
Wash exposed skin thoroughly after handling. Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Neoprene, Nitrile/butadiene rubber (“nitrile” or “NBR”) or Polyvinyl chloride (“PVC” or “vinyl”).  
Avoid release to the environment.

**Response:** **If Inhaled:** Remove person to fresh air and keep comfortable for breathing. Call Poison Control Center or Doctor if you feel unwell.  
**If in Eyes:** Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes for at least 10 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.  
Collect spillage.

**Storage:** Store in a cool, dry, well ventilated, and secure area designated specifically for pesticides and away from heat sources.  
Keep in original containers and keep containers closed when not in use.  
Do not store in excessive heat. Do not store near children, food, foodstuffs, drugs or potable water supplies.

**Disposal:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities.

**Section 3: Composition Information**

<u>Components</u>	<u>CAS No.:</u>	<u>% By Wt.:</u>	<u>OSHA PEL:</u>	<u>ACGIH TLV:</u>
Active Ingredient:				
Copper Hydroxide	20427-59-2	37.5%	N/Av	1 mg/m <sup>3</sup>
Inert Ingredients:	N/A	62.5%	N/A	N/A

**Section 4: First-Aid Measures**

**Eye Contact:** Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes for at least 10 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

**If Swallowed:** Call a poison control center or doctor immediately for treatment advice. Rinse mouth with water then have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. Have product label with you when calling a poison control center or doctor.

**Skin Contact:** Immediately flush skin with water while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Destroy contaminated leather items such as shoes, belts, and watchbands.

**If Inhaled:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**Note to Physician:** Treat symptomatically. Acute oral overexposure to copper hydroxide, a major component of this product, may cause hypotension, hemolysis, and rarely methemoglobinemia. Copper hydroxide is an emetic, however, dilution with fluids, adsorption with activated charcoal, or lavage may be indicated.

## Section 5: Fire Fighting Measures

**Fire Hazards:** Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Thermal decomposition during a fire can produce fumes and irritating gases.

**Flammability classification (OSHA 29 CFR 1910.1200):** Non-combustible

**Flash point:** >200°F

**Lower flammable limit (% by volume):** N/Av

**Upper flammable limit (% by volume):** N/Av

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Evacuate the area and fight the fire from upwind at a safe distance to avoid hazardous vapors or decomposition products. Dike and collect fire-extinguishing water to prevent environmental damage and excessive waste runoff.

**Firefighting media:** Use foam, dry chemical, carbon dioxide, or water fog when fighting fires involving this product. Do not use water jet, as this may spread burning material. Minimize the use of water to avoid environmental contamination. Contain all runoff.

**Special Protective Equipment for Firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Use full face shield and operate in positive pressure mode. Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical resistant firefighting 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.

**Hazardous Combustion Products:** Decomposes to CuO and H<sub>2</sub>O above 140°C.

**NFPA: Health: Flammability: Reactivity:**

3                      0                      0

(Rating: 4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Insignificant)

## Section 6: Accidental Release Measures

### Steps to be taken if Material is Released or Spilled:

- Contain spilled material if possible. Small spills: Apply suitable absorbent then sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Drexel Chemical Co. for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

### Personal Precautions:

- Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. 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.

## Section 7: Handling and Storage

### KEEP OUT OF REACH OF CHILDREN

**Handling:** **General Handling:** Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Do not swallow. Avoid breathing vapor. Use with adequate ventilation. Wear long-sleeved shirt, long pants plus shoes with socks when handling. Keep away from heat, sparks and flame. See Section 8, Exposure Controls and Personal Protection.

**Storage:** Store in a cool, dry, ventilated and secure area designated specifically for pesticides and away from heat sources. Keep in original containers and keep containers closed when not in use. Do not store in excessive heat. Do not store near children, food, foodstuffs, drugs or potable water supplies.

## Section 8: Exposure Controls / Personal Protection

**Exposure Limits:** TLV Copper Hydroxide 1.0 mg/m<sup>3</sup>

### Personal Protection:

**Eye/Face Protection:** Wear chemical splash goggles to prevent vapors or mists from entering the eyes. If using a full face shield, always use splash goggles along with the face shield to ensure adequate protection of the eyes.

**Skin Protection:** Wear long-sleeved shirt, long pants and shoes plus socks. 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/butadiene rubber ("nitrile" or "NBR") or Polyvinyl chloride ("PVC" or "vinyl").

**Respiratory Protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. When handling in enclosed areas, when large quantities of mists are generated or prolonged exposure is possible in excess of the TLV, use a respirator with either an organic vapor-removing

cartridge with a pre-filter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C) or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G).

**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:** When handling this product proper ventilation is required to maintain exposure below the TLV. Ventilate all transport vehicles prior to unloading. Facilities storing or utilizing this material should be equipped with and eyewash facility and safety shower.

## **Section 9: Physical and Chemical Properties**

<b>Physical State:</b>	Suspension
<b>Color:</b>	Light blue
<b>Odor:</b>	Slight sweet
<b>Flash Point:</b>	>200°F Non-combustible
<b>Vapor Pressure (mmHg):</b>	Negligible
<b>Boiling Point:</b>	>212°F
<b>Vapor Density (air = 1):</b>	N/Av
<b>Bulk Density (H<sub>2</sub>O = 1):</b>	1.41 g/cc
<b>Freezing Point:</b>	N/Av
<b>Solubility in water:</b>	Dispersible
<b>pH:</b>	8-9 (5% dilution)
<b>Viscosity:</b>	N/Av
<b>% Volatiles:</b>	N/Av

## **Section 10: Stability and Reactivity**

**Stability/Instability:** Stable under normal conditions. Avoid heating above 60°C (100°F).

**Conditions to Avoid:** Keep this product away from heat, sparks, flame and other sources of ignition.

**Incompatible Materials:** Avoid contact with strong acids, acid vapors, ammonia.

**Hazardous Polymerization:** Will not occur

**Thermal Decomposition:** Decomposition products can include but are not limited to: CuO and water.

## **Section 11: Toxicological Information**

#### **Acute Toxicity:**

##### **Ingestion:**

- Oral, LD50, (rat): 3,090 mg/kg

**Dermal:**

- Dermal, LD50, (rabbit): >2,020 mg/kg

**Inhalation:**

- LC50, (rat): > 2.74 mg/L

**Eye Irritation (rabbit):**

- Moderately irritating

**Skin Irritation (rabbit):**

- Non-irritating

**Sensitization Skin:**

- Non-sensitizer (Guinea Pig)

**Chronic Toxicity:**

- Repeated ingestion of copper salts may result in anemia, liver and kidney damage. Chronic inhalation exposure may cause a metallic taste in the mouth, irritation of the upper respiratory tract such a nasal mucosa that may progress to perforation of the nasal septum. Chronic cough may also occur.

**Carcinogenicity**

- Not likely to be carcinogenic in humans

**Teratogenicity, mutagenicity, and other reproductive effects:** None known

## Section 12: Ecological Information

Data is presented for copper hydroxide:

**ENVIRONMENTAL FATE:**

- This product is toxic to fish and aquatic organisms.

**Persistence and Degradability:**

- This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. The degree of mobility of copper in the environment depends upon the pH of ambient soils and waters. The higher the acidity, the more soluble copper salts are and, hence, more mobile.

**Aquatic Toxicity:**

- Rainbow Trout, LC50: 23 ppb
- Bluegill Sunfish, LC50: 180 ppm
- Daphnia magna, EC50 6.5 ppb

**Bird Toxicity:**

- Mallard Duck, 8-day, LD50: >10,000ppm
- Bobwhite Quail: 8-day, LD50: >10,000 ppm

## Section 13: Disposal Considerations

If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

## Section 14: Transport Information

**DOT:** Not regulated – See 49 CFR 173.132 (b) (3) & 1712.1-1 Appendix A

**IATA:** Not regulated

**IMDG:** Not regulated

**Freight description:** Agricultural Fungicide, liquid, N.O.S.

**ERG Guide No.:** 171

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.

## Section 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.
- **EPA FIFRA INFORMATION:**  
This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemical. The hazard information required on the pesticide label is listed out below. The pesticide label also includes other important information, including directions for use.
- **EPA/CERCLA Reportable Quantity:** N/A

### SARA/TITLE III:

- **Sec. 302. Extremely Hazardous Substance Notification:** This material is not known to contain any Extremely Hazardous Substances.
- **Sec. 311/312. Hazard Categories:** Immediate health hazard
- **Sec. 313. Toxic Chemical(s):** Copper Hydroxide (CAS 20427-59-2)
- **RCRA Waste Code:** Not applicable

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

- This product is not listed.

**Toxic Substances Control Act (TSCA):**

- All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

**Section 16: Other Information**

*Drexel Chemical Company recommends that each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this 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 below. 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 SDSs, we are not and cannot be responsible for SDSs obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.*

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