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Columbus Chemical Industries, Inc./ Route 2, Box 187-B/ Columbus, Wisconsin 53925 /414-623-2140

## MATERIAL SAFETY DATA SHEET

ENTERED OCT 10 1986		SECTION I		CAS #144-62-7
CHEMICAL NAME AND SYNONYMS Oxalic Acid		TRADE NAME AND SYNONYMS Ethanedioic Acid		
CHEMICAL FAMILY Carboxylic Acid		FORMULA	HO <sub>2</sub> CCO <sub>2</sub> H·2H <sub>2</sub> O	

SECTION II—HAZARDOUS INGREDIENTS				
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	% TLV (Units)
PIGMENTS			BASE METAL	
CATALYST			ALLOYS	
VEHICLE			METALLIC COATINGS	
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX	
ADDITIVES			OTHERS	
OTHERS				
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				% TLV (Units)
This section does not apply to oxalic acid -- single substance.				

SECTION III—PHYSICAL DATA			
BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H <sub>2</sub> O = 1)	1.9
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR = 1)	N/A	EVAPORATION RATE (_____ = 1)	N/A
SOLUBILITY IN WATER @ 20°C	8.34%	Melting Point	189.5°C
APPEARANCE AND ODOR	White crystals		

SECTION IV—FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method used)	not flammable	FLAMMABLE LIMITS	n/a
		Lel	Uel
EXTINGUISHING MEDIA	Water, dry chemical, "alcohol" foam, CO <sub>2</sub> . Water spray to cool fire-exposed containers.		
SPECIAL FIRE FIGHTING PROCEDURES	Wear self-contained breathing apparatus, eye goggles or face shield, and protective clothing.		
UNUSUAL FIRE AND EXPLOSION HAZARDS	Emits highly toxic fumes.		

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SECTION V—HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	1 mg/m <sup>3</sup> TXDS: orl-hmn LDLo: 71 mg/kg
EFFECTS OF OVEREXPOSURE	Poison, harmful dust. Inhaled: may be fatal. Skin: absorption is rapid, severe burns on contact. Ingestion: serious corrosion of mouth, 5 gm is fatal.
EMERGENCY AND FIRST AID PROCEDURES	Inhalation: remove to fresh air. Skin: remove contaminated clothing immediately, flush with water. Eyes: flush with water for 15 min. Ingestion: drink milk, milk of magnesia, or lime water; do not induce vomiting. Get medical attention in all cases.

SECTION VI—REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID Reacts explosively with chlorites and hypochlorites
	STABLE	X	
INCOMPATIBILITY (Materials to avoid) Alkalies, Silver			
HAZARDOUS DECOMPOSITION PRODUCTS Highly toxic fumes including CO <sub>x</sub> and formic acid			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII—SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Take up and containerize for proper disposal.	
WASTE DISPOSAL METHOD To be performed in compliance with all current local, state, and federal regulations.	

SECTION VIII—SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type) Wear dust mask or cartridge respirator			
VENTILATION	LOCAL EXHAUST	X	SPECIAL
	MECHANICAL (General)	X	OTHER
PROTECTIVE GLOVES	Neoprene or rubber	EYE PROTECTION	Goggles or safety glasses
OTHER PROTECTIVE EQUIPMENT Protective clothing including apron and long sleeves.			

SECTION IX—SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Store in a cool, dry, well-ventilated area from area of acute fire hazard. Keep container closed. Store separate from oxidizing materials, outside storage preferred.	
OTHER PRECAUTIONS Do not store near food items. Wash gloves before removing; wash hands and face thoroughly after handling. Clean work area thoroughly after use.	