

MSDS (Material Safety Data Sheet) Copper Remover - C2181

1		Product Identification	
	1	Manufacturer:	
		1 Name:	Angelgilding.com
		2 Street Address:	619 S. Clarence Ave
		3 City, State, and Zip:	Oak Park, IL 60304-1303
		4 24-hour Emergency Number	(708) 383-3340
	2	Product Code(s):	Copper Remover - C2181
	3	Preparer:	
		1 Name:	M. G. King
		2 Phone Number:	(708) 383-3340
		3 Revision Information:	5/25/2008
2		Composition/Information on Ingredients	
		Per Ingredient:	
		1 Synonyms:	Ammonia
		2 CAS Id:	1336-21-6
		3 Formula:	NH3 in water
		4 Formula Weight:	35.05
		5 Percent:	10
		6 Hazardous:	
		Per Ingredient:	
		1 Synonyms:	AMMONIUM(I) persulfate, ammonium peroxydisulfate
		2 CAS Id:	7727-54-0
		3 Formula:	(NH4)2S2O8
		4 Formula Weight:	228.2
		5 Percent:	5
		6 Hazardous:	
3		Hazards Identification	
	1	Overview:	DANGER! STRONG OXIDIZER, CORROSIVE. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. MAY BE FATAL IF SWALLOWED OR INHALED. MAY CAUSE BURNS TO SKIN AND EYES. MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION. MIST AND VAPOR CAUSE BURNS TO EVERY AREA OF CONTACT.
	2	SAF-T-DATA Ratings:	
		1 Health Rating:	3 - Severe (Poison)
		2 Flammability Rating:	0 - None
		3 Reactivity Rating:	3 - Severe (Oxidizer)
		4 Contact Rating:	4 - Extreme (Corrosive)
		5 Protective Equipment:	GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
		6 Storage Color Code:	White Stripe (Store Separately)
	3	Potential Health Effects:	
		1 Inhalation:	May irritate the mucous membranes. May cause lung edema. Symptoms may include sore throat, shortness of breath, inflammation of nasal passages, coughing, and wheezing. Any exposure may cause an allergic reaction. Asthma-like symptoms and life-threatening shock may result. Vapors and mists cause irritation to the respiratory tract. Higher concentrations can cause burns, pulmonary edema and death. Brief exposure to 5000 ppm can be fatal.

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		2	Ingestion:	Corrosive and Toxic. May produce abdominal pain, nausea and vomiting. May cause corrosion to the esophagus and stomach with perforation and peritonitis. Symptoms may include pain in the mouth, chest, and abdomen, with coughing, vomiting and collapse. Ingestion of as little as 3-4 mL may be fatal.
		3	Skin Contact:	Corrosive. May cause skin burns.
		4	Eye Contact:	May cause severe irritation and pain. Vapors cause irritation. Splashes cause severe pain, eye damage, and permanent blindness.
		5	Chronic Exposure:	Prolonged skin contact may cause an allergic reaction with dermatitis. Repeated exposure may cause damage to the tissues of the mucous membranes, upper respiratory tract, eyes and skin.
		6	Aggravation of Pre-existing Conditions:	Persons with impaired respiratory function or pre-existing eye disorders may be more susceptible to the effects of this material.
4			First Aid Measures	
	1		Inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
	2		Ingestion:	If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
	3		Skin Contact:	Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.
	4		Eye Contact:	Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately. Immediate action is critical to minimize possibility of blindness.
	5		Note to Physician:	
5			Fire Fighting Measures:	
	1		Fire:	Autoignition temperature: 651C (1204F) Flammable limits in air % by volume: l _{el} : 16; u _{el} : 25 Material is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Heating or contact with water releases oxygen which may intensify combustion in an existing fire.
	2		Explosion:	An explosion hazard when mixed with finely powdered organic matter, metal powder, or reducing agents.
	3		Fire Extinguishing Media:	Use any means suitable for extinguishing surrounding fire. Use any means suitable for extinguishing surrounding fire. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire.
	4		Special Information:	In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Sealed containers may rupture when heated.

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6		Accidental Release Measures:	Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Contain and recover liquid when possible. Do not flush caustic residues to the sewer. Residues from spills can be diluted with water, neutralized with dilute acid such as acetic, hydrochloric or sulfuric. Absorb neutralized caustic residue on clay, vermiculite or other inert substance and package in a suitable container for disposal. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.
7		Handling and Storage:	Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Separate from combustibles, organic or other readily oxidizable materials. Avoid storage on wood floors. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.
8		Exposure Controls/Personal Protection:	
	1	Airborne Exposure Limits:	
		1 OSHA PEL:	
			50 ppm NH3
		2 ACGIH TLV:	25 ppm NH3 (TWA) 35 ppm (STEL)
	2	Ventilation System:	A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.
	3	Personal Respirators (NIOSH Approved):	For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.
	4	Skin Protection:	Wear protective gloves and clean body-covering clothing. Neoprene and nitrile rubber are recommended materials.

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	5	Eye Protection:	Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.
9		Physical and Chemical Properties:	
	1	Appearance:	Colorless solution
	2	Odor:	Ammonia
	3	Solubility in water:	Complete
	4	Density (g cm-3):	1
	5	pH:	14
	6	% Volatiles by volume @ 21C (70F):	
	7	Boiling Point: °C	100
	8	Melting Point (°C):	0
	9	Vapor Density (Air=1):	
	10	Vapor Pressure (mm Hg):	
	11	Evaporation Rate (BuAc=1):	
10		Stability and Reactivity:	
	1	Stability:	Stability decreases in solution.
	2	Hazardous Decomposition Products:	Decomposes to form oxygen and ozone. Burning may produce nitrogen oxides, sulfur oxides, and sulfuric acid.
	3	Hazardous Polymerization:	
	4	Incompatibilities:	Reducing agents, organic material, sodium peroxide and powdered metals especially aluminum.
	5	Conditions to Avoid:	Combustible materials and incompatibles.
11		Toxicological Information:	
	1	Oral rat LD50:	350 mg/kg
	2	Tumorigen:	Investigated
	3	Mutagen:	Investigated
	4	Reproductive effector:	
	5	Carcinogenicity:	
	6	IARC Category:	
	7	Skin rabbit:	
	8	Eye rabbit:	standard Draize, 250 ug
	9	Inhalation rat LC50	
12		Ecological Information	
	1	Environmental Fate:	
	2	Environmental Toxicity:	24 Hr LC50 rainbow trout: 0.008 mg/L; 96 Hr LC50 fathead minnow: 8.2 mg/L; 48 Hr LC50 bluegill: 0.024 mg/L; 48 Hr EC50 water flea: 0.66 mg/L
13		Disposal Considerations:	Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.
14		Transport Information:	
	1	Domestic (Land, D.O.T.):	
	1	Proper Shipping Name:	AMMONIUM PERSULFATE, AMMONIA, MIXTURE, SOLUTION

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		2	Hazard Class:	5.1, 8
		3	UN/NA:	UN1444, UN2672
		4	Packing Group:	III
		5	Information reported for product/size:	385 lb
	2		International (Water, I.M.O.):	
		1	Proper Shipping Name:	AMMONIUM PERSULFATE, AMMONIA, MIXTURE, SOLUTION
		2	Hazard Class:	5.1, 8
		3	UN/NA:	UN1444, UN2672
		4	Packing Group:	III
		5	Information reported for product/size:	385 lb
	3		International (Air, I.C.A.O.):	
		1	Proper Shipping Name:	
		2	Hazard Class:	
		3	UN/NA:	
		4	Packing Group:	
		5	Information reported for product/size:	
15			Regulatory Information:	
		1	TSCA:	Y
		2	EC:	Y
		3	Japan:	Y
		4	Australia:	Y
		5	Korea:	Y
		6	Canada	Y
		7	Chemical Weapons Convention:	
		8	Known to the State of California to cause cancer (Y/N):	N
		9	Australian Hazchem Code:	2P
		10	Poison Schedule:	S6
		11	Controlled Products Regulations:	
16			Other Information	
		1	NFPA Ratings:	
		1	Health:	3
		2	Flammability:	1
		3	Reactivity:	1 (Oxidizer)
		2	Label Hazard Warning:	DANGER! POISON, STRONG OXIDIZER, CORROSIVE. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. FATAL IF SWALLOWED OR INHALED. MAY CAUSE BURNS TO SKIN AND EYES. MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION. MIST AND VAPOR CAUSE BURNS TO EVERY AREA OF CONTACT.

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	3	Label Precautions:	<p>Keep from contact with clothing and other combustible materials. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Store in a tightly closed container. Use with adequate ventilation. Wash thoroughly after handling.</p>
	4	Label First Aid:	<p>In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.</p>
	5	Product Use:	Commercial mirroring
	6	Disclaimer:	<p>Angelgilding.com provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Angelgilding.com. makes no representations or warranties, either express or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Angelgilding.com will not be responsible for damages resulting from use of or reliance upon this information.</p>