Safety Data Sheet

Mixed Acid Reagent

CAROLINA®
www.carolina.com

Section 1 Product Description

Product Name:	Mixed Acid Reagent
Recommended Use:	Science education applications
Synonyms:	N/A
Distributor:	Carolina Biological Supply Company 2700 York Road, Burlington, NC 27215 1-800-227-1150
Chemical Information:	800-227-1150 (8am-5pm (ET) M-F)
Chemtrec:	800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Toxic to aquatic life.

GHS Classification:
Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Hazardous to the aquatic environment - Acute Category 2, Acute Toxicity - Oral Category 4

Acute Toxicity Dermal Contains	17.1 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains	17.1 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains	17.1 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Water	7732-18-5	80.9
Ammonium Chloride	12125-02-9	17
Acetic Acid	64-19-7	2
Copper (II) Sulfate, Anhydrous	7758-98-7	0.1

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation:	In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact:	IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Ingestion:	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.

Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Ammonia, Hydrogen chloride

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed. Ventilate the contaminated area. Isolate area. Keep unnecessary personnel away.
Absorb the liquid and scrub the area with detergent and water. Pick up wash liquid with additional absorbent and place in a disposable container. Do not allow the spilled product to enter public drainage system or open waterways.

Section 7 Handling and Storage

Handling: Wash thoroughly after handling. Do no eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/vapor. Do not get in eyes, on skin, or on clothing. Retained residue may make empty containers hazardous; use caution.
Storage: Keep container tightly closed in a cool, well-ventilated place.
Storage Code: White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

Section 8 Protection Information

	ACGIH		OSHA PEL	
Chemical Name	**(TWA)**	**(STEL)**	**(TWA)**	**(STEL)**
Ammonium Chloride	10 mg/m3 TWA (fume)	20 mg/m3 STEL (fume)	10 mg/m3	20 mg/m3
Acetic Acid	10 ppm TWA	15 ppm STEL	10 ppm TWA; 25 mg/m3 TWA	N/A
Copper (II) Sulfate, Anhydrous	1 mg/m3 TWA (dust and mist, as Cu)	N/A	N/A	N/A

Control Parameters
Engineering Measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.
Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.
Respiratory Protection: No respiratory protection required under normal conditions of use. Wear a NIOSH approved respirator if levels above the exposure limits are possible.
Respirator Type(s): NIOSH approved air purifying respirator with dust/mist filter.
Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.
Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves: Nitrile

Section 9 Physical Data

Formula: N/A
Molecular Weight: N/A
Appearance: Blue Liquid
Odor: No data available Vinegar
Odor Threshold: No data available
pH: No data available
Melting Point: 338 C
Boiling Point: 100 C
Flash Point: No data available
Flammable Limits in Air: N/A N/A
Vapor Pressure: N/A
Evaporation Rate (BuAc=1): N/A
Vapor Density (Air=1): N/A
Specific Gravity: N/A
Solubility in Water: Soluble
Log Pow (calculated): No data available
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: N/A

Safety Data Sheet

Section 10 Reactivity Data

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Exposure to moisture Temperatures above the high flash point of this combustible materia in combination with sparks, open flames, or other sources of ignition.
Incompatible Materials:	Water-reactive materials, Strong acids, Strong oxidizing agents, Caustics (bases), Acetic anhydride, Acetaldehydes, Oxidizing materials, Halogens, Carbonates
Hazardous Decomposition Products:	Hydrogen chloride, Ammonia
Hazardous Polymerization:	Will not occur

Section 11 Toxicity Data

Routes of Entry Ingestion, Skin contact.
Symptoms (Acute): N/A
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		
Ammonium Chloride	12125-02-9	Oral LD50 Rat 1650 mg/kg Oral LD50 Mouse 1300 mg/kg		
Acetic Acid	64-19-7			INHALATION LC50 MAMMAL 11.4 GM/M3 INHALATION LC50 Mouse 5620 ppm

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Acetic Acid	64-19-7	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity:	No evidence of a mutagenic effect.
Teratogenicity:	No evidence of a teratogenic effect (birth defect).
Sensitization:	No evidence of a sensitization effect.
Reproductive:	No evidence of negative reproductive effects.
Target Organ Effects:	
Acute:	See Section 2
Chronic:	Mutation data cited., Tumorigenic data cited., Reproductive data cited.

Section 12 Ecological Data

Overview:	Moderate ecological hazard. This product may be dangerous to plants and/or wildlife. Keep out of waterways.
Mobility:	No data
Persistence:	Biodegradation, Chemically Transformed, Dissolved into water, Adsorbs to soil.
Bioaccumulation:	No data
Degradability:	No data
Other Adverse Effects:	Mobility is dependant on environmental pH.

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Ammonium Chloride	12125-02-9	96 HR LC50 CYPRINUS CARPIO 209 MG/L [STATIC] 24 HR LC50 LEPOMIS MACROCHIRUS 725 MG/L 24 HR LC50 DAPHNIA MAGNA 202 MG/L

Acetic Acid	64-19-7	Aquatic LC50 (96h) Fathead Minnow 79 MG/L Aquatic EC50 (24h) Daphnia 47 MG/L
Copper (II) Sulfate, Anhydrous	7758-98-7	96 HR LC50 ONCORHYNCHUS MYKISS 0.1 MG/L

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Waste Disposal Code(s): Not Determined

Section 14 Transport Information

Ground - DOT Proper Shipping Name:
N/A

Air - IATA Proper Shipping Name:
Not regulated for air transport by IATA.

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Ammonium Chloride	12125-02-9	No	5000 lb RQ	5000 lb final RQ; 2270 kg final RQ	No	No
Acetic Acid	64-19-7	No	5000 lb RQ	5000 lb final RQ; 2270 kg final RQ	No	No
Copper (II) Sulfate, Anhydrous	7758-98-7	No	10 lb RQ	10 lb final RQ; 4.54 kg final RQ	No	No

Section 16 Additional Information

Revised: 09/03/2014 **Replaces: 08/27/2014** **Printed: 04-21-2015**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Service Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency for Research on Cancer
N/A	Not Available
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
IDLH	Immediately dangerous to life and health