

MATERIAL SAFETY DATA SHEET

MEM AMINO ACIDS SOLUTION (50X), W/O GLUTAMINE
 INVITROGEN CORPORATION
 MSDS ID: 11130

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 Revised 12/16/02
 Replaces 2/14/02
 Printed 1/09/03

1. PRODUCT AND COMPANY INFORMATION

INVITROGEN CORPORATION
 1600 FARADAY AVE.
 CARLSBAD, CA 92008
 760/603-7200

GIBCO PRODUCTS
 INVITROGEN CORPORATION
 3175 STALEY ROAD P.O. BOX 68
 GRAND ISLAND, NY 14072
 716/774-6700

INVITROGEN CORPORATION
 3 FOUNTAIN DR.
 INCHINNAN BUSINESS PARK
 PAISLEY, PA4 9RF
 SCOTLAND
 44-141 814-6100

INVITROGEN CORPORATION
 P.O. BOX 12-502
 PENROSE
 AUCKLAND 1135
 NEW ZEALAND
 64-9-579-3024

INVITROGEN CORPORATION
 2270 INDUSTRIAL ST.
 BURLINGTON, ONT
 CANADA L7P 1A1
 905/335-2255

EMERGENCY NUMBER (SPILLS, EXPOSURES): 301/431-8585 (24 HOUR)
 800/451-8346 (24 HOUR)
 NON-EMERGENCY INFORMATION: 800/955-6288

Product Name:
 MEM Amino Acids Solution (50X), w/o Glutamine

NOTE: If this product is a kit or is supplied with more than one material,
 please refer to the MSDS for each component for hazard information.

Product Use:
 These products are for laboratory research use only and are not intended for
 human or animal diagnostics, therapeutic, or other clinical uses.

Synonyms:
 Not available.

2. COMPOSITION, INFORMATION ON INGREDIENTS

The following list shows components of this product classified as hazardous
 based on physical properties and health effects:

Component	CAS No.	Percent
HYDROCHLORIC ACID	7647-01-0	1 - 5

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3. HAZARDS IDENTIFICATION

***** EMERGENCY OVERVIEW *****

Danger!

Corrosive to tissue.

Toxic if swallowed. May cause organ failure or death.

Toxic by inhalation.

Potential Health Effects:

Eye:

Can cause severe irritation. Eye contact may result in corneal injury.

Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. Temporary vision impairment (cloudy or blurred vision) is possible.

Skin:

Corrosive to skin tissue. Can cause chemical burns.

This product may discolor the skin.

Upon prolonged or repeated exposure, harmful if absorbed through the skin.

May cause minor systemic damage.

Inhalation:

Can be corrosive to the respiratory tract causing severe irritation and tissue damage.

Other possible symptoms include; wheezing and coughing due to pulmonary edema (fluid build-up in lungs).

Toxic! Can cause systemic damage (see "Target Organs"). Respiratory failure is possible at high doses.

Ingestion:

Corrosive to tissue. Can cause severe and permanent damage to mouth, throat, stomach. Aspiration may lead to lung damage.

Toxic if swallowed. May cause target organ failure and/or death.

Chronic:

No data on cancer.

4. FIRST AID MEASURES

Eye:

Immediately flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention and monitor the eye daily as advised by your physician.

Skin:

Wash with soap and water under a drench shower. Remove contaminated clothing, launder immediately, and discard contaminated leather goods. Get

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4. FIRST AID MEASURES (CONT.)

medical attention immediately.

Inhalation:

Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.

Ingestion:

Corrosive. Do not induce vomiting! Drink one glass of water followed by milk if available. Seek medical attention immediately and give the medical care provider with this MSDS.

Note To Physician:

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flashpoint Deg C:

Not available.

Upper Flammable Limit %:

Not available.

Lower Flammable Limit %:

Not available.

Autoignition Temperature Deg C:

Not available.

Extinguishing Media:

Not combustible. Use extinguishing media appropriate for surrounding fire. Use water spray/fog for cooling.

Firefighting Techniques/Equipment:

Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.

Hazardous Combustion Products:

Includes carbon dioxide, carbon monoxide, dense smoke.

6. ACCIDENTAL RELEASE MEASURES

Accidental releases may be subject to special reporting requirements and other regulatory mandates. Refer to Section 8 for personal protection equipment recommendations.

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6. ACCIDENTAL RELEASE MEASURES (CONT.)

Spill Cleanup:

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section VIII of this MSDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section VIII at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

7. HANDLING AND STORAGE

Storage of some materials is regulated by federal, state, and/or local laws.

Storage Pressure:
 Ambient

Handling Procedures:

Highly toxic or corrosive material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. Keep closed or covered when not in use.

Storage Procedures:

Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed. Suitable for most general chemical storage areas.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits:

Component	OSHA PEL (ppm)	ACGIH TWA (ppm)
HYDROCHLORIC ACID	5 PPM 7 MG/M3	5 PPM

Engineering Controls:

Local exhaust ventilation, process enclosures, or other engineering controls are necessary when handling or using this product to avoid overexposure.

Personal Protective Equipment:

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8. EXPOSURE CONTROLS, PERSONAL PROTECTION (CONT.)

Eye:

An eye wash station must be available where this product is used. Wear chemically resistant safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Do not wear contact lenses. Have an eye wash station available.

Skin:

Prevent contact with this product. Wear protective gloves, apron, face and further skin protection depending upon condition of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment thoroughly after each use. Do not wear surgical style latex gloves. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Have a safety shower available. Neoprene.

Respiratory:

NIOSH approved air purifying respirator with acid gas cartridge and dust/mist filter

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/physical state:	Clear light-yellow liquid.
Odor:	Strong.
Boiling Point (C):	212.9 100.49
Melting Point (C):	28.58 -1.9
Solubility in water:	Not established.
pH:	~1
Vapor Pressure:	Not established.
Vapor Density:	Not established.
Specific Gravity/Density:	Not established.
Octanol/water Partition Coeff:	Not established.
Volatiles:	Not established.
Evaporation Rate:	Not established.
Viscosity:	Not established.

10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions.

Conditions to Avoid:

Strong oxidizing agents. High temperatures. Strong alkalies. Do not store in direct sunlight.

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10. STABILITY AND REACTIVITY (CONT.)

Hazardous Decomposition Products:
Hydrogen cyanide. Chlorine.

Hazardous Polymerization:
Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Dermal/Skin:
Not determined.

Inhalation/Respiratory:
Hydrochloric acid: 3124 PPM/1H

Oral/Ingestion:
Hydrochloric acid: 900 MG/KG

Target Organs: Respiratory Tract. Dental erosion. Eyes. Skin. Lungs.

Carcinogenicity:

NTP:
Not tested.

IARC:
Not listed.

OSHA:
Not regulated.

Other Toxicological Information

12. Ecological Information

Ecotoxicological Information: No ecological information available.

Environmental Fate (Degradation, Transformation, and Persistence):
Bioconcentration is not expected to occur.
Does not biodegrade readily.

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13. DISPOSAL CONSIDERATIONS

Regulatory Information:
Not applicable.

Disposal Method:
Clean up and dispose of waste in accordance with all federal, state, and local environmental regulations.

14. TRANSPORT INFORMATION

Proper Shipping Name: N.O.S.
Corrosive liquid, nos (contains hydrochloric acid)
Hazard Class: 8
Subsidiary Hazards:
ID Number: UN1325
Packing Group: III
Label Required: Corrosive.

15. REGULATORY INFORMATION

UNITED STATES:

TSCA:
This product is solely for research and development purposes only and may not be used, processed or distributed for a commercial purpose. It may only be handled by technically qualified individuals.

Prop 65 Listed Chemicals: PROP 65 PERCENT
No Prop 65 Chemicals.

313 LISTED CHEMICALS: HYDROCHLORIC ACID (AEROSOL FORMS ONLY)

CANADA:

DSL/NDSL:
Not determined.

COMPONENT WHMIS Classification
HYDROCHLORIC ACID E D2A

EUROPEAN UNION:

PRODUCT RISK PHRASES:
None assigned.

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15. REGULATORY INFORMATION (CONT.)

PRODUCT SAFETY PHRASES:

None assigned.

PRODUCT CLASSIFICATION:

None; Aucun; Geen; Keine; Nessuno; Ninguno/a

Component	EINECS
HYDROCHLORIC ACID	Number 231-595-7

16. OTHER INFORMATION

HMIS Rating 0-4:

FIRE: Not determined.

HEALTH: Not determined.

REACTIVITY: Not determined.

Abbreviations

N/A - Data is not applicable or not available

SARA - Superfund and Reauthorization Act

HMIS - Hazard Material Information System

WHMIS - Workplace Hazard Materials Information System

NTP - National Toxicology Program

OSHA - Occupational Health and Safety Administration

IARC - International Agency for Research on Cancer

PROP 65 - California Safe Drinking Water and

Toxic Enforcement Act of 1986

EINECS - European Inventory of Existing Commercial
Chemical Substances

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since Invitrogen Corporation cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS MSDS DOES NOT CONSTITUTE A WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.