



Issuing Date 03-Jun-2009

Revision Date 08-Aug-2011

Revision Number 0

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

Product Name	Guanidine Hydrochloride
Product Code(s)	M110
Recommended Use	For Further Manufacturing Use Only Not for Human or Animal Drug Use
Recommended Use	Purification of nucleic acids or polypeptides from cell sources and inhibition of both RNase and protease activity.
Synonyms	AMINOFORMAMIDINE HYDROCHLORIDE * AMINOMETHANAMIDINE HYDROCHLORIDE
Company AMRESKO, LLC 6681 Cochran Road Solon, Ohio 44139	
Emergency Telephone Number	Chemtrec 1-800-424-9300
Company Phone Number E-mail Address	1-800-448-4442 info@amresco-inc.com

2. HAZARDS IDENTIFICATION

GHS - Classification

Classification	Acute Toxicity Oral 4 Skin Irritant 2 Eye Irritant 2
Signal Word	Warning



Hazard Statements	H302 - Harmful if swallowed H319 - Causes serious eye irritation H315 - Causes skin irritation
Precautionary Statements	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	EC No.	REACH Reg. No.	CAS-No	Weight %	Classification
Guanidine hydrochloride	EEC No. 200-002-3	Not available	50-01-1	95-100	Xn; R22 Xi; R36/38

4. FIRST AID MEASURES

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes
Inhalation	Move to fresh air. If breathing is difficult, give oxygen.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth. Consult a physician.
Notes to Physician	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not flammable
Flash Point	Not determined
Suitable Extinguishing Media	Dry chemical, CO ₂ , water spray or alcohol-resistant foam.
Hazardous Combustion Products	Carbon oxides, Nitrogen oxides (NOx), Emits toxic fumes.
Explosion Data	
Sensitivity to Mechanical Impact	Not sensitive
Sensitivity to Static Discharge	Not sensitive
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid contact with the skin and the eyes. Use personal protective equipment. Ensure adequate ventilation.
Methods for Containment	Prevent further leakage or spillage if safe to do so
Methods for Cleaning Up	Pick up and transfer to properly labeled containers

7. HANDLING AND STORAGE

Handling Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Hygroscopic.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Hygroscopic.

Incompatible Products Strong oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Guanidine hydrochloride 50-01-1			

Engineering Measures Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment

Eye/Face Protection Safety glasses with side-shields. Avoid contact with eyes.

Skin and Body Protection Wear protective gloves/clothing.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance White

Odor No information available

Odor Threshold No information available

Decomposition Temperature °C No information available

Freezing Point No information available

Initial Boiling Point No information available

Physical State Crystalline Powder

pH (as 1% solution) 6

Flash Point Not determined

Autoignition Temperature No data available

Boiling Point/Range No data available

Melting Point/Range No data available

Flammability Limits in Air **Upper** No data available **Lower** No data available

Explosive Properties No information available

Oxidizing Properties No information available

Evaporation Rate No data available

MMHG @ 37.8 C No data available

Vapor Density No data available

Specific Gravity 1.4

Solubility No information available

Water Solubility Very soluble in water

Partition Coefficient (n-octanol/water) No data available

Viscosity No information available

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions
Incompatible Products	Strong oxidizing agents.
Conditions to Avoid	Hygroscopic. Protect from moisture.
Hazardous Decomposition Products	Carbon oxides. Nitrogen oxides (NOx). Toxic fumes.
Hazardous Polymerization	Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information	Harmful if swallowed, inhaled, or absorbed through skin. Causes skin, eye and respiratory tract irritation.
----------------------------	---

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Guanidine hydrochloride		2000 mg/kg (Rabbit)	

Chronic Toxicity

Chronic Toxicity	No known effect based on information supplied
-------------------------	---

Target Organ Effects	Bone marrow, Nerves.
-----------------------------	----------------------

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic organisms.

Chemical Name	Log Pow
Guanidine hydrochloride	<= -1.7 20 °C

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method	Dispose of material in accordance with all federal, state, and local regulations.
Contaminated Packaging	Dispose of in accordance with all federal, state and local regulations

14. TRANSPORT INFORMATION

IATA Not regulated

DOT Not regulated

15. REGULATORY INFORMATION

REACH Title VII Restrictions No information available.

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on the Label	Pollution Release and Transfer Registry (Class II):	Pollution Release and Transfer Registry (Class I):	Poison and Deleterious Substances Control Law:
Guanidine hydrochloride	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Component	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA - Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) - Toxic Chemicals	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Guanidine hydrochloride 50-01-1 (95-100)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

International Inventories

TSCA Complies
 EINECS/ELINCS Complies
 ENCS Complies
 IECSC Complies
 KECL Does not Comply
 PICCS Complies
 AICS Complies

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard Yes
 Chronic Health Hazard No

Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990

CERCLA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

International Regulations

Mexico - Grade No information available.

Canada

WHMIS Hazard Class

D2B Toxic materials



16. OTHER INFORMATION

Issuing Date 03-Jun-2009

Revision Date 08-Aug-2011

Revision Note
No information available.

Recommended Restrictions No information available

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS