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Revision Date 31-Mar-2011

Revision Number 5

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

Product Name Guanidine Hydrochloride

Product Code(s) 0118

Recommended Use For Further Manufacturing Use Only
Not for Human or Animal Drug Use

Synonyms AMINOFORMAMIDINE HYDROCHLORIDE * AMINOMETHANAMIDINE HYDROCHLORIDE * CARBAMIDINE HYDROCHLORIDE * GUANIDINE CHLORIDE * GUANIDINE HYDROCHLORIDE * GUANIDINIUM CHLORIDE * GUANIDINIUM HYDROCHLORIDE * IMINOUREA HYDROCHLORIDE * USAF EK-749 *

Company
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2. HAZARDS IDENTIFICATION

GHS - Classification

Classification Skin Irritant 2 Acute Toxicity Oral 4 Serious Eye Damage/Irritant 2A Acute Toxicity Inhalation 5

Signal Word Warning



Hazard Statements H302 - Harmful if swallowed H315 - Causes skin irritation H319 - Causes serious eye irritation H333 - May be harmful if inhaled

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	-	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, CO₂, water spray or alcohol-resistant foam.

Hazardous Combustion Products Carbon oxides, Nitrogen oxides (NOx), Hydrogen Chloride gas.

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 Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

Handling	Handle in accordance with good industrial hygiene and safety practice. Protect from moisture.
Storage	Keep containers tightly closed in a cool, well-ventilated place. Protect from moisture.
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 to slight yellow	
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	Granular Crystalline Powder	
pH	No data available	
Flash Point	Not determined	
Autoignition Temperature	No data available	
Boiling Point/Range	No data available	
Melting Point/Range	183 °C	
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	No data available	
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	Protect from moisture.
Hazardous Decomposition Products	Carbon oxides. Nitrogen oxides (NOx). Hydrogen chloride gas.
Hazardous Polymerization	Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information Irritating to eye, skin and respiratory system. Toxic by inhalation and if swallowed.

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	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Guanidine hydrochloride			EC50 = 88.7 mg/L 18 h	

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
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International Inventories

TSCA	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
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 contains a chemical or 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 02-Nov-2010

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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