



Material Safety Data Sheet

12601 Twinbrook Parkway,
Rockville, MD 20852 USA

Phone Calls: 301-816-8129
8 a.m. to 5 p.m. EST Mon. - Fri.

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GLUCOSAMINE HYDROCHLORIDE

Catalog Number: 1294207

Revision Date:

October 16, 2008

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Common Name: Glucosamine Hydrochloride

Manufacturer: U. S. Pharmacopeia

Responsible Party: Reference Standards Technical Services

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Product Use: USP Reference Standards and Authentic Substances are used for chemical tests and assays in analytical, clinical, pharmaceutical, and research laboratories.

SECTION 2 - HAZARD INFORMATION

Adverse Effects: Adverse effects may include heartburn, diarrhea, nausea, vomiting, constipation, and loss of appetite. Possible allergic reaction to material if inhaled, ingested, or in contact with skin.

Overdose Effects: n/f

Acute: Possible eye, skin, gastrointestinal, and/or respiratory tract irritation.

Chronic: Possible hypersensitization.

Medical Conditions Aggravated by Exposure: Hypersensitivity to material.

Cross Sensitivity: n/f

Target Organs: n/f

For additional information on toxicity, see Section 11.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Common Name: Glucosamine Hydrochloride

Formula: C₆H₁₃NO₅ . HCl

Synonym: n/f

Chemical Name: D-Glucose, 2-amino-2-deoxy-, hydrochloride

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CAS: 66-84-2

RTECS Number: LZ6665000

Chemical Family: Aminomonosaccharide

Therapeutic Category: Phamaceutic aid

Composition: Pure Material

SECTION 4 - FIRST AID MEASURES

Inhalation: May cause irritation. Remove to fresh air.

Eye: May cause irritation. Flush with copious quantities of water.

Skin: May cause irritation. Flush with copious quantities of water.

Ingestion: May cause irritation. Flush out mouth with water.

General First Aid Procedures: Remove from exposure. Remove contaminated clothing. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention.

Note to Physicians

Overdose Treatment: Treatment of glucosamine overdose is symptomatic and supportive. Gastrointestinal decontamination is generally not necessary, but a slurry of activated charcoal may be administered. [Meditext 2008]

SECTION 5 - FIREFIGHTING MEASURES

Extinguisher Media: Water spray, dry chemical, carbon dioxide, or foam as appropriate for surrounding fire and materials.

Fire and Explosion Hazards: This material is assumed to be combustible. As with all dry powders, it is advisable to ground mechanical equipment in contact with dry material to dissipate the potential buildup of static electricity.

Firefighting Procedures: As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spill Response: Wear approved respiratory protection, chemically compatible gloves, and protective clothing. Wipe up spillage or collect spillage using a high-efficiency vacuum cleaner. Avoid breathing dust. Place spillage in appropriately labeled container for disposal. Wash spill site.

SECTION 7 - HANDLING AND STORAGE

Handling: As a general rule, when handling USP Reference Standards, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Wash thoroughly after handling.

Storage: Store in tight, light-resistant container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

SECTION 8 - EXPOSURE CONTROL / PERSONAL PROTECTION

Engineering Controls: Engineering controls such as exhaust ventilation are recommended.

Respiratory Protection: Use a NIOSH-approved respirator, if it is determined to be necessary by an industrial hygiene survey involving air monitoring. In the event that a respirator is not required, an approved dust mask should be used.

Gloves: Chemically compatible

Eye Protection: Safety glasses or goggles

Protective Clothing: Protect exposed skin.

Exposure Limits: n/f

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Properties as indicated on the MSDS are general and not necessarily specific to the USP Reference Standard Lot provided.

Appearance and Odor: White crystalline powder; characteristic odor.

Odor Threshold: n/f

pH: 3.0 - 5.0 (in a 2% aqueous solution)

Melting Range: 190 - 199° C

Boiling Point: n/f

Flash Point: n/f

Autoignition Temperature: n/f

Evaporation Rate: n/f

Upper Flammability Limit: n/f

Lower Flammability Limit: n/f

Vapor Pressure: n/f

Vapor Density: n/f

Specific Gravity: n/f

Solubility in Water: Soluble

Fat Solubility: n/f

Other Solubility: n/f

Partition Coefficient: n-octanol/water: n/f

Percent Volatile: n/f

Reactivity in Water: n/f

Explosive Properties: n/f

Oxidizing Properties: n/f

Formula: C₆H₁₃NO₅ . HCl

Molecular Weight: 215.63

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SECTION 10 - STABILITY AND REACTIVITY

Conditions to Avoid: Avoid exposure to light.

Incompatibilities: Strong oxidizing agents.

Decomposition Products: When heated to decomposition, material emits toxic fumes of NO_x and Cl⁻. Emits toxic fumes under fire conditions.

Stable? Yes **Hazardous Polymerization?** No

SECTION 11 - TOXICOLOGICAL PROPERTIES

Oral Rat: LD50: n/f

Oral Mouse: LD50: 15 grams/kg

Other Toxicity Data: n/f

Irritancy Data: n/f

Corrosivity: n/f

Sensitization Data: n/f

Listed as a Carcinogen by: **NTP:** No **IARC:** No **OSHA:** No

Other Carcinogenicity Data: No

Mutagenicity Data: Glucosamine hydrochloride was negative for mutagenicity in tests with E. coli and Salmonella. Glucosamine was suspected of inhibiting DNA replication in human and mouse lymphocytes during animal studies. Also, other mutation tests were positive in mouse lymphocytes. Glucosamine hydrochloride 0.1% injected into Swiss albino mice at 1mL/100 grams induced chromosomal aberrations in bone marrow cells. In tilapia fish, injections of glucosamine hydrochloride at a concentration of 0.1% (1 mL/100 grams) induced micronuclei in red blood cells.

Reproductive and Developmental Effects: No adverse effects were reported in mice and rabbits after glucosamine therapy.

SECTION 12 - ECOLOGICAL INFORMATION

Ecological Information: n/f

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal: Dispose of waste in accordance with all applicable Federal, State, and local laws.

SECTION 14 - TRANSPORT INFORMATION

Shipping Name: n/f

Class: n/f

UN Number: n/f

Packing Group: n/f

Additional Transport Information: n/f

SECTION 15 - REGULATORY INFORMATION

U.S. Regulatory Information: n/f

International Regulatory Information: EINECS#: 200-638-1

SECTION 16 - OTHER INFORMATION

GLUCOSAMINE HYDROCHLORIDE**Catalog Number:** 1294207**Revision Date:**October 16, 2008

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