MATERIAL SAFETY DATA SHEET

Date Printed: 05/11/2004 Date Updated: 03/06/2004 Version 1.7

Section 1 - Product and Company Information Product Name MAGNESIUM CHLORIDE ANHYDROUS Product Number 63063 Brand FLUKA Company Sigma-Aldrich Street Address 3050 Spruce Street SAINT LOUIS MO 63103 US City, State, Zip, Country Technical Phone: 314 771 5765 414 273 3850 Ext. 5996 Emergency Phone: 800 325 5052 Fax: Section 2 - Composition/Information on Ingredient Substance Name SARA 313 CAS # MAGNESIUM CHLORIDE ANHYDROUS 7786-30-3 No Formula MgCl2 Synonyms DUS-top RTECS Number: OM2800000 Section 3 - Hazards Identification EMERGENCY OVERVIEW Target organ(s): Central nervous system. Kidneys. HMIS RATING HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0 NFPA RATING HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0 For additional information on toxicity, please refer to Section 11. Section 4 - First Aid Measures ORAL EXPOSURE If swallowed, wash out mouth with water provided person is conscious. Call a physician. INHALATION EXPOSURE If inhaled, remove to fresh air. If breathing becomes difficult, call a physician. DERMAL EXPOSURE In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT N/A

AUTOIGNITION TEMP N/A

FLAMMABILITY N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
 Exercise appropriate precautions to minimize direct contact with

skin or eyes and prevent inhalation of dust.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Store under nitrogen.

SPECIAL REQUIREMENTS Store under inert gas. Moisture sensitive. Hygroscopic.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT Respiratory: Wear dust mask. Hand: Protective gloves. Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid Color: White Odor: Odorless
Property	Value At Temperature or Pressure
Molecular Weight pH BP/BP Range MP/MP Range Freezing Point Vapor Pressure Vapor Density Saturated Vapor Conc. SG/Density Bulk Density Odor Threshold Volatile% VOC Content Water Content Evaporation Rate Viscosity Surface Tension Partition Coefficient Decomposition Temp. Flash Point Explosion Limits Flammability Autoignition Temp Refractive Index Optical Rotation Miscellaneous Data	95.22 AMU N/A N/A 714 °C N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Miscellaneous Data Solubility	N/A Solubility in Water:Soluble.

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.
Reactions to Avoid: When mixed with limited amount of water enough
heat may be generated to cause frothing.
Conditions to Avoid: Protect from moisture.
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Hydrogen chloride gas, Magnesium oxide.

HAZARDOUS POLYMERIZATION Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation. Skin Absorption: May be harmful if absorbed through the skin. Eye Contact: May cause eye irritation. Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

```
Ingestion: May be harmful if swallowed.
TARGET ORGAN(S) OR SYSTEM(S)
   Central nervous system. Kidneys. G.I. System.
SIGNS AND SYMPTOMS OF EXPOSURE
   Can cause CNS depression. Exposure can cause: Stomach pains,
   vomiting, diarrhea. To the best of our knowledge, the chemical,
   physical, and toxicological properties have not been thoroughly
   investigated.
TOXICITY DATA
   Oral
  Rat
   2800 mg/kg
  LD50
  Remarks: Behavioral: Convulsions or effect on seizure threshold.
  Cardiac:Other changes. Lungs, Thorax, or Respiration:Other
   changes.
  Oral
  Mouse
   4700 mg/kg
  LD50
  Intraperitoneal
  Mouse
   342 MG/KG
  LD50
  Intravenous
  Mouse
  14 MG/KG
  LD50
   Intramuscular
  Mammal
   1 GM/KG
  LD50
CHRONIC EXPOSURE - MUTAGEN
   Species: Human
   Dose: 20 MMOL/L
   Cell Type: fibroblast
  Mutation test: DNA damage
   Species: Human
   Dose: 2 MMOL/L
   Cell Type: HeLa cell
  Mutation test: Cytogenetic analysis
  Species: Rat
  Route: Intraperitoneal
   Dose: 2500 UMOL/KG
  Mutation test: Unscheduled DNA synthesis
   Species: Mouse
  Dose: 4 MMOL/L
   Cell Type: Ascites tumor
   Mutation test: Other mutation test systems
```

Section 12 - Ecological Information

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION S: 26

Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

US CLASSIFICATION AND LABEL TEXT Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection. US Statements: Target organ(s): Central nervous system. Kidneys.

UNITED STATES REGULATORY INFORMATION SARA LISTED: No TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR. DSL: Yes NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.