



SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ICE-STOP™ Ice Control Agent
ICE-STOP™ CI Ice Control Agent

Chemical Name: Magnesium chloride, aqueous solution **Synonyms:** Magnesium Chloride Hexahydrate Brine

CAS Number: mixture (see Section 2) **Product Use:** ice control agent

Manufacturer Information: Reilly Industries, Inc. **Emergency Phone Number (24 hr.):** (317) 247-8141
300 North Meridian Street **CHEMTREC Phone Number (24 hr.):** (800) 424-9300
Suite 1500 (collect calls are accepted)
Indianapolis, Indiana 46204 **Non-Emergency Phone Number:** (317) 247-8141
USA **Non-Emergency Fax Number:** (317) 248-6413

SECTION 2: COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Concentration (%)	Exposure Limits	
			OSHA PEL	ACGIH TLV
Magnesium Chloride Hexahydrate	7791-18-6	25-35 %	not established	not established
Water	7732-18-5	65-75 %	not established	not established
Corrosion Inhibitor (in ICE-STOP™ CI)	proprietary	2500-3000 ppm	not established	5 mg/m ³ as 8-hr time-weighted average

SECTION 3: HAZARDS IDENTIFICATION

Emergency Overview:

Colorless liquid with essentially no odor. Mild irritant to skin and eyes. May be irritating to respiratory tract if inhaled.

Signs and Symptoms of Potential Overexposure: May be mildly irritating to skin and eyes on contact, similar to the irritation observed due to exposure to common salt water (sodium chloride). If inhaled as a mist, this material may be irritating to the respiratory tract. See Section 11 for further toxicological information. Although it is expected that the health effects related to this solution are minimal, as with any chemical, use appropriate precautions during handling.

Primary Route(s) of Entry: Skin contact, eye contact. Ingestion is not likely to be a primary route of exposure.

Medical Conditions Aggravated by Exposure: Persons with pre-existing skin and respiratory disorders may be at increased risk from overexposure to this material. This is not likely to be a problem when appropriate procedures are used to minimize exposure.

SECTION 4: FIRST AID MEASURES

Skin Contact: Wash exposed area twice with soap and water. The exposed area should be examined by medical personnel if irritation or pain persists after the area has been washed.

Eye Contact: Rinse eyes immediately with large amounts of water for at least 15 minutes, occasionally lifting the eyelids. GET MEDICAL ATTENTION.

Inhalation: In the unlikely event that a person would be exposed to an airborne mist of such magnitude as to be overcome, remove from exposure to fresh air immediately. If breathing has stopped, give artificial respiration. Keep affected person warm and at rest. GET MEDICAL ATTENTION.

Ingestion: If swallowed, induce vomiting to prevent further absorption. Give oxygen if respiration is shallow. GET MEDICAL ATTENTION. Do not give anything by mouth to an unconscious person.

Thermal Exposure: not applicable

Delayed Effects: none known

Note to Physician: Overexposures may lead to mild, transient irritation of skin, eyes or respiratory system. Taken internally, magnesium salts are absorbed very slowly; oral administration of magnesium salts generally causes nothing more than purging. Treatment should be based on the judgment of the physician in response to the reactions

of the patient.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point:	non-combustible (aqueous solution)	Method:	not available	Autoignition Temperature:	not available
Flammable Limits:	UFL :	not available	LFL:	not available	
Flammability Classification (OSHA):	Not applicable.				
Hazardous Products of Combustion:	Toxic fumes of hydrogen chloride may be evolved when magnesium chloride is thermally decomposed.				
Potential for Dust Explosion:	Not applicable				
Special Flammability Hazards:	Not applicable				
Appropriate Extinguishing Media:	Water spray, carbon dioxide, dry chemical.				
Basic Fire Fighting Guidance:	This material consists of 65 - 75% water, and is not combustible. In the event of a surrounding fire, wear self-contained breathing apparatus and full protective clothing. Skin and eye contact should be avoided. Normal fire fighting procedures may be used.				

SECTION 6: ACCIDENTAL RELEASE MEASURES

Containment Techniques:	For small spills, use suitable absorbent material and collect for later disposal. For larger spills, diking may be required to contain the release.
Clean-up Procedures & Equipment:	Wear protective equipment during clean up. Remove all ignition sources. Ventilate area of spill or leak. Collect material for later disposal. After collection of material, flush area with water.
Evacuation Procedures:	Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
Special Instructions:	Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.
Special Reporting Requirements:	Notify appropriate authorities if required by regulation.

SECTION 7: HANDLING AND STORAGE

Storage Precautions:	Protect containers from physical damage.
Storage Recommendations:	Maintain dry, ventilated conditions for storage. Keep away from strong acids to prevent release of hydrogen chloride gas.
Precautions for Unique Hazards:	Not applicable.
Practices to Minimize Risk:	Wear protective equipment when performing maintenance on contaminated equipment.
Special Handling Equipment:	Not applicable.
Dangerous Incompatibility Reactions:	Avoid contact with furan-2-peroxycarboxylic acid; explosion could result.
Incompatibilities with Materials of Construction:	Mildly corrosive to metals over time (< 0.05 inches/year in carbon steel). ICE-STOP™ CI contains a proprietary corrosion inhibitor to reduce corrosion to metals.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:	OSHA PEL:	not established	ACGIH TLV:	not established
Personal Protective Equipment:	Where overexposures are a concern, use NIOSH-approved dust/mist respirator as necessary. Chemical goggles, and impervious clothing, gloves and boots should be considered if extensive splashing is likely. Contact lenses should not be worn when handling this material. Do not smoke or eat in areas where this material is handled. Wash hands thoroughly before eating or smoking.			
Respirator Caution:	Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.			

Ventilation:	All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided. For outdoor operations generating airborne mist, workers should position themselves upwind of the operation to avoid exposure.
Other Engineering Controls:	All available engineering controls to minimize risk should be used.
Thermal Hazards:	Not applicable
Additive or Synergistic Effects:	None known

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Molecular Formula:	MgCl ₂ • 6 H ₂ O
Molecular Weight:	203.31
Appearance, State & Odor (ambient temperature):	clear, odorless liquid
pH:	7
Vapor Pressure:	not available
Vapor Density (air = 1):	not available
Boiling Point:	244.6°F
Freezing Point:	- 13°F
Melting Point:	not applicable
Solubility in Water:	miscible
Specific Gravity or Density:	1.30 @ 68°F
VOC Content:	not available
Softening Point:	not applicable
Bulk Density:	not applicable
Octanol / Water Partition Coefficient:	not available
Odor Threshold:	not available

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability:	Stable
Conditions to Avoid:	Not applicable
Incompatibilities:	Avoid contact with strong acids.
Hazardous Decomposition Products:	Hydrogen chloride gas may be released if product is evaporated to dryness and heated to > 500°C.
Hazardous Polymerization:	Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Oral LD₅₀:	2800 mg/kg	Species:	Rat		
Acute Dermal LD₅₀:	not available	Species:	not available		
Acute Inhalation LC₅₀:	not available	Duration:	not available	Species:	not available
Skin / Eye Irritation:	Mild skin irritant / Mild eye irritant				
Target Organs:	Multiple oral doses of magnesium chloride administered intermittently to mice over 13 weeks at 114 mg/kg resulted in changes in liver and spleen weights in exposed animals. [RTECS]				
Carcinogenicity:	Negative in 96 week oral B6C3F1 mouse study, ranging up to 2% of diet. [See <i>Food Chem. Toxicol.</i> 27(9):559-63, 1989]				
Teratogenicity:	No data available.				

Reproductive Effects: No data available.
Neurotoxicity: No data available.
Mutagenicity: Negative in bacterial DNA repair assay in *Bacillus subtilis*. [See *Mutat. Res.* 87:211-297, 1981]
Additional Toxicity Information: Magnesium chloride is listed by the US Food and Drug Administration as a chemical "generally recognized as safe" as a direct human food ingredient. [See 21 CFR 184.1426]

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: No data available.
Environmental Fate: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

US EPA Waste Number: not applicable
Classification of Waste as Manufactured: Non Hazardous
 (per federal regulations) NOTE: Generator is responsible for proper waste characterization. State hazardous waste regulations may differ substantially from federal regulations.
Waste Disposal: Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: TRANSPORT INFORMATION

DOT Proper Shipping Name: ICE-STOP™ Ice Control Agent, Non-Hazardous.
IATA Proper Shipping Name: ICE-STOP™ Ice Control Agent, Non-Hazardous.
IMDG Proper Shipping Name: ICE-STOP™ Ice Control Agent, Non-Hazardous.
Emergency Guidebook Numbers: **NAERG:** not applicable **EMS:** not applicable **MFAG:** not applicable

SECTION 15: REGULATORY INFORMATION

OSHA Hazards: Irritant.
Chemical Inventory Status: **TSCA:** Yes **EINECS:** Yes **Canada:** Yes - DSL
Japan: Yes **Korea:** Yes **Australia:** Yes
China: Yes **Philippines:** Yes
SARA 313: Not applicable
Other Regulatory Listings: Class D: Division 2: Subdivision B: Irritant
Reportable Quantities: Not applicable
State Regulations: Not applicable

SECTION 16: OTHER INFORMATION

Precautionary Statement: Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

Reilly Industries Hazard Rating System: **H:** 1 **F:** 0 **R:** 0

Revision Date: 16 October 2002

Original Date of Issue: 18 April 1990

Revision Details: New MSDS format