

DE-ICING SALT

PRODUCTION LOCATION

Cote Blanche, Louisiana

PRODUCT DESCRIPTION

Rock salt obtained by conventional mining methods, crushed, and screened to size.

TYPICAL SCREEN ANALYSIS

Retained and Cumulative (95% Confidence)

U.S.S. Mesh	Tyler Mesh	Open. (In.)	Ret. %	Range %	Cum. %	Range %
1/2		0.500	0.4	0 - 2	0.4	0 - 2
0.375	0.371	0.375	5.5	0 - 17	5.9	0 - 18
4	4	0.1870	26.3	4 - 49	32.2	5 - 59
8	8	0.0937	34.7	17 - 53	66.9	36 - 97
30	28	0.0234	28.2	1 - 55	95.1	88 - 100
Pan	Pan		4.9	0 - 12	100.0	

Average Particle Size 0.139 inches (6.0 mesh)

PHYSICAL PROPERTIES

Bulk Density 72 lbs/cubic foot

Chemical Analysis (95% Confidence)		Typical	Range
Sodium Chloride	NaCl (%)	98.93	98.70 - 99.12
Calcium Sulfate	CaSO ₄ (%)	0.87	0.56 - 1.18
Calcium Chloride	CaCl ₂ (%)	0.01	0.00 - 0.03
Magnesium Sulfate	MgSO ₄ (%)	0.01	0.00 - 0.02
Magnesium Chloride	MgCl ₂ (%)	0.00	0.00 - 0.01
Sodium Sulfate	Na ₂ SO ₄ (%)	0.10	0.00 - 0.43
Moisture	H ₂ O (%)	0.03	0.00 - 0.08
Water Insolubles	(%)	0.04	0.00 - 0.08

METHOD OF ANALYSIS

American Society for Testing and Materials Procedure D632-94 and E524-91

All other testing is from North American Salt's internal quality control procedures, which are available upon request.

ADMIXTURE

Sodium Ferrocyanide (YPS) added - If requested by customer

Product Description and Codes	UFC code	Product Code
Bulk		7608

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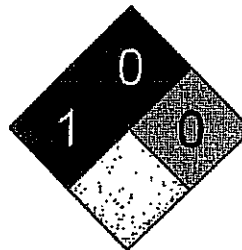
MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name Sodium Chloride, Salt
CAS # 7647-14-5
Product use De-icer. General industrial and water softening/conditioning purposes.
Manufacturer North American Salt Company
 9900 West 109th St., Suite 600
 Overland Park, KS 66210 US
 Phone: 913-344-9200
Supplier Compass Minerals International
 9900 West 109th Street, Suite 600
 Overland Park, KS 66210 US
 Phone: 913-344-9200
 Website: www.compassminerals.com

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 1
Flammability	0
Physical Hazard	0
Personal Protection	E



2. Hazards Identification

Emergency overview CAUTION
EYE AND SKIN IRRITANT.

Potential short term health effects

Routes of exposure

Eyes Eye, Skin contact, Inhalation, Ingestion.
May cause irritation.

Skin May cause irritation.

Inhalation Dusts of this product may cause irritation of the nose, throat, and respiratory tract.

Ingestion May cause stomach distress, nausea or vomiting.

Target organs Eyes. Skin. Respiratory system.

Chronic effects Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms Symptoms may include redness, edema, drying, defatting and cracking of the skin.
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Sodium chloride	7647-14-5	60 - 100

4. First Aid Measures

First aid procedures

Eye contact Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.

Skin contact Brush away excess of dry material. Flush with water. Obtain medical attention if irritation persists.

Inhalation If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

Ingestion Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.

Notes to physician Symptoms may be delayed.

General advice None Available.

5. Fire Fighting Measures

Flammable properties Not flammable by WHMIS/OSHA criteria. May be combustible at high temperatures.

Extinguishing media

Suitable extinguishing media	Treat for surrounding material.
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Unsuitable extinguishing media	Not available
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Protection of firefighters

Specific hazards arising from the chemical	Not available
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Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
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6. Accidental Release Measures

Personal precautions	Before attempting clean up, refer to hazard data given above. Use broom or dry vacuum to collect material for proper disposal without raising dust. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
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Methods for containment	None necessary.
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Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Use broom or dry vacuum to collect material for proper disposal without raising dust. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
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7. Handling and Storage

Handling	Avoid breathing dusts from this material.
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Storage	Keep out of reach of children. Keep containers tightly closed in a cool, well-ventilated place.
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8. Exposure Controls / Personal Protection**Exposure limits**

Ingredient(s)	Exposure Limits
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Sodium chloride	ACGIH-TLV
	Not established
	OSHA-PEL
	Not established

Engineering controls

TWA PEL: No specific limits have been established for sodium chloride (a soluble substance). As a guideline, OSHA (United States) has established the following limits which are generally recognized for inert or nuisance dust. Particulates Not Otherwise Regulated (PNOR): 5mg/cu.m. Respirable Dust 8-Hour TWA PEL, 15mg/cu.m. Total Dust 8-Hour TWA PEL.

TWA TLV: No specific limits have been established for sodium chloride (a soluble substance). As a guideline, ACGIH (United States) has established the following limits which are generally recognized for inert or nuisance dust. Particulates (insolubles) Not Otherwise Classified (PNOC): 10mg/cu.m. Inhalable Particulate 8-Hours TWA TLV, 3mg/cu.m. Respirable Particulate TWA TLV.

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. If user operations generate dust, fumes, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal protective equipment

Eye / face protection	Safety glasses.
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Hand protection	Rubber gloves. Confirm with a reputable supplier first.
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Skin and body protection	As required by employer code.
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Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator or NIOSH-approved filtering facepiece.
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General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.
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9. Physical & Chemical Properties

Appearance	Crystalline.
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Color	White
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Form	Crystals
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Odor	Odorless.
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Odor threshold	Not available
Physical state	Solid
pH	6 - 8 (Neutral)
Melting point	800.9 °C (1473.8 °F)
Freezing point	Not available
Boiling point	1413 °C (2575.4 °F)
Flash point	Not available
Evaporation rate	Not available
Flammability limits in air, lower, % by volume	Not applicable
Flammability limits in air, upper, % by volume	Not applicable
Vapor pressure	0.1 kPa (1 mmHg) @ 885°C
Vapor density	Not applicable
Specific gravity	2.17 (H2O = 1)
Relative density	2.17 g/cm3
Octanol/water coefficient	Not available
Solubility (H2O)	36g/100g H2O @ 20°C
Auto-ignition temperature	Not available
Viscosity	Not applicable
Percent volatile	0 % w/w
Molecular weight	58.4400 g/mole
Molecular formula	NaCl

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with incompatible materials.
Incompatible materials	Reactive with oxidizing agents, acids, lithium, bromine trifluoride.
Hazardous decomposition products	May include and are not limited to: Chlorine, sodium oxides
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Component analysis - LC50	
Ingredient(s)	LC50
Sodium chloride	> 21000 mg/m3 rat
Component analysis - Oral LD50	
Ingredient(s)	LD50
Sodium chloride	3000 mg/kg rat
Effects of acute exposure	
Eye	May cause irritation.
Skin	May cause irritation.
Inhalation.....	Dusts of this product may cause irritation of the nose, throat, and respiratory tract.....
Ingestion	May cause stomach distress, nausea or vomiting.
Sensitization	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Chronic effects	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Carcinogenicity	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Mutagenicity	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Reproductive effects	Not classified or listed by IARC, NTP, OSHA and ACGIH.
Teratogenicity	Not classified or listed by IARC, NTP, OSHA and ACGIH.

12. Ecological Information

Ecotoxicity	Maybe harmful to freshwater aquatic species and to plants that are not saline tolerant.
Environmental effects	Not available
Aquatic toxicity	Not available
Persistence / degradability	Not available
Bioaccumulation / accumulation	Not available

Partition coefficient	Not available
Mobility in environmental media	Not available
Chemical fate information	Not available

13. Disposal Considerations

Waste codes	Not available
Disposal instructions	Waste must be disposed of in accordance with federal, state/provincial and local environmental control regulations.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

Department of Transportation (DOT)
Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG)
Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.	
US Federal regulations	This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.	
	CERCLA/SARA Hazardous Substances - Not applicable.	
Occupational Safety and Health Administration (OSHA)		
29 CFR 1910.1200 hazardous chemical	No	
CERCLA (Superfund) reportable quantity	None	
Superfund Amendments and Reauthorization Act of 1986 (SARA)		
Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No	
Section 302 extremely hazardous substance	No	
Section 311 hazardous chemical	No	
Clean Air Act (CAA)	Not available	
Clean Water Act (CWA)	Not available	
Safe Drinking Water Act (SDWA)	Not available	
Drug Enforcement Agency (DEA)	Not available	
Food and Drug Administration (FDA)	Not available	
WHMIS status	Not Controlled	
State regulations	This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.	
Inventory name		
Country(s) or region	Inventory name	On Inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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