Safety Data Sheet

Section 01 - Identification

Product Identifier	Sodium Nitrate
Other Means of Identification	Nitratine, nitric acid, sodium salt, sodium saltpeter, sodium nitrate, crystal.
Product Use and Restrictions on Use	Laboratory reagent
Initial Supplier Identifier	ClearTech Industries Inc. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
Prepared By	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
24-Hour Emergency Phone	Phone: 1 (306) 664 – 2522

Section 02 - Hazard Identification

GHS-Classification

Eye Damage/Irritation Category 2

Physical Hazards

Oxidizing Solid Category 3

Warning

Hazard Statements
H272 – May intensify fire; oxidiser.
H319 – Causes serious eye irritation.

Pictograms

Precautionary Statements
P210 – Keep away from heat, sparks, open flames, and hot surfaces. — No smoking.
P220 – Keep/Store away from clothing and combustible materials.
P280 – Wear eye protection and face protection.
P370 + P378 – In case of fire: Use extinguishing media suitable for surrounding fire.
P264 – Wash hands thoroughly after handling.
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 – If eye irritation persists: Get medical advice/attention.
P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 03 - Composition / Information on Ingredients

Chemical Name	CAS Number	Weight %	Unique Identifiers
Sodium Nitrate	7631-99-4	98-100%	

Section 04 - First Aid Measures

Inhalation

If symptoms are experienced, remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention.

Skin Contact / Absorption

Rinse skin with lukewarm, gently flowing water and non-abrasive soap. Remove contaminated clothing. Seek medical attention if irritation occurs or persists.

Eye Contact

Immediately flush eye(s) with lukewarm, gently flowing water for 30 minutes while forcibly holding the eyelids open to ensure complete irrigation of the eye tissue. If a contact lens is present, remove only if easy to do so. If irritation persists, seek medical attention.

Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Rinse mouth out with water. Seek medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Additional Information

Treatment based on sound judgment of physician and individual reactions of patient.

Section 05 - Fire Fighting Measures

Suitable Extinguishing Media

Sodium nitrate is not combustible. Use extinguishing agents compatible with sodium nitrate and appropriate for the surrounding fire. Use flooding quantities of water to fight fires in which this material is involved. Note that large quantities of sodium nitrate may melt or fuse in a fire and that water application may result in extensive scattering of molten material.

Unsuitable Extinguishing Media

Do not use dry chemical extinguishing agent on oxidizer fires. Carbon dioxide or other extinguishing agents that smother flames are not effective in fires involving oxidizers.

Specific Hazards Arising From the Chemical

Mild oxidizer – slightly increases the burning rate of combustible materials. Prolonged contact with combustible materials may produce enough heat to ignite the combustible material. Appreciable decomposition of sodium nitrate begins at 510-600°C forming sodium nitrite and oxygen. In a fire, sodium nitrate may fuse or melt and it may explode. Closed containers may rupture violently due to rapid decomposition, if exposed to fire or excessive heat for a sufficient period of time. During a fire, irritating/toxic nitrogen oxides, nitrogen and oxygen gases may be generated.

Special Protective Equipment and Precautions for Fire-Fighters

Wear NIOSH-approved self-contained breathing apparatus and protective clothing.

Further Information

Not Available

Section 06 - Accidental Release Measures

Personal Precautions / Protective Equipment / Emergency Procedures

Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.

Environmental Precautions	Prevent material from entering sewers.
Methods and Materials for Containment and Cleaning Up	Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. Small amounts of residue may be flushed to sewer with plenty of water.

Section 07 - Handling and Storage

Precautions for Safe Handling	Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.
Conditions for Safe Storage	Keep container dry. Keep in a cool place. Ground all equipment containingmmaterial. Keep container tightly closed. Keep in a cool and well-ventilated area. Highly toxic or infectious materials should be stored in a separate locked safety storage cabinet or room.
Incompatibilities	Reacts with acids to emit toxic fumes of nitrogen dioxide. Contact with the following may cause an explosion: barium rhodanide, boron phosphide, cyanides, sodium thiosulfate, sodium hypophosphite, sulfur plus charcoal, powdered aluminum and aluminum oxide. Fibrous organic material such as jute, wood, and similar cellulosic materials can become highly combustible by nitrate impregnation.

Section 08 - Exposure Controls and Personal Protection

Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Sodium Nitrate	Not Established		

Engineering Control(s)

Ventilation Requirements	Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.
Other	Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

Protective Equipment

Eyes/Face	Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
Hand Protection	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
Skin and Body Protection	Body suite, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse. Impervious boots of chemically resistant material should be worn at all times. No special footwear is required other than what is mandated at place of work.
Respiratory Protection	For dusty or misty conditions, wear NIOSH-approved dust or mist respirator. In case of spill or leak resulting in unknown concentration, use NIOSH approved supplied air respirator.
Thermal Hazards	Not Available

Section 09 - Physical and Chemical Properties

Appearance

Physical State	Solid
Colour	Colourless prills pellets
Odour	Odourless
Odour Threshold	Not Applicable

Property

pH	5.5-8.3 (5% solution)
Melting Point/Freezing Point	308°C
Initial Boiling Point and Boiling Range	Decomposes
Flash Point	Not Applicable
Evaporation Rate	Negligible
Flammability	Non-Flammable. Weak oxidizer – can slightly increase the burning rate of a fire.
Upper Flammable Limit	Not Applicable
Lower Flammable Limit	Not Applicable
Vapour Pressure (mm Hg, 20°C)	Extremely low
Vapour Density (Air=1)	Not Applicable
Relative Density	Not Available
Solubility(ies)	Very soluble in water. Very soluble in ammonia; slightly soluble in ethanol, methanol, acetone and glycerol.
Partition Coefficient: n-octanol/water	Log P_{OW} = -0.79
Auto-ignition Temperature	Not Applicable
Decomposition Temperature	Above 510-600°C
Viscosity	Not Applicable
Explosive Properties	Explosive with shock, heat or friction. Sodium nitrate decomposes explosively when heated > 538°C.
Specific Gravity (Water=1)	2.26 at 20°C
% Volatiles by Volume	0
Formula	$NaNO_3$
Molecular Weight	84.99

Section 10 - Stability and Reactivity

Reactivity	Sodium nitrate is a National Fire Protection Association (NFPA) Class 1 Oxidizer. Class 1 Oxidizers do not moderately increase the burning rate of combustible materials with which they come into contact.
Stability	Product is stable
Possibility of Hazardous Reactions	None reported.
Conditions to Avoid	Heat near decomposing temperature. Contact with incompatible materials. Avoid contact with flammable or combustible materials.
Incompatible Materials	Reacts with acids to emit toxic fumes of nitrogen dioxide. Contact with the following may cause an explosion: barium rhodanide, boron phosphide, cyanides, sodium thiosulfate, sodium hypophosphite, sulfur plus charcoal, powdered aluminum and aluminum oxide. Fibrous organic material such as jute, wood, and similar cellulosic materials can become highly combustible by nitrate impregnation.
Hazardous Decomposition Products	Decomposes appreciably at 510-600°C forming sodium nitrite, sodium oxide, nitrogen oxides, nitrogen and oxygen.

Section 11 - Toxicological Information

Acute Toxicity

Component	Oral LD_{50}	Dermal LD_{50}	Inhalation LC_{50}
Sodium Nitrate	1267mg/kg (rat)	Not Available	Not Available

Chronic Toxicity – Carcinogenicity

Component	IARC
Sodium Nitrate	Not known to be carcinogenic.

Skin Corrosion/Irritation	Skin irritant
Ingestion	Toxic by ingestion. May cause gastroenteritis and abdominal pains. Other symptoms may include dizziness, bloody diarrhea, convulsions, and collapse. Purging and diuresis can be expected. Small repeated doses may cause headache and mental impairment. Rare cases of nitrates being converted to the more toxic nitrites have been reported, mostly with infants
Inhalation	Inhalation of dust irritates the respiratory tract. Symptoms may include coughing, shortness of breath.
Serious Eye Damage/Irritation	Causes serious eye irritation.
Respiratory or Skin Sensitization	Not Available
Germ Cell Mutagenicity	Not known to be mutagenic. May be a mutagenic hazard at very high level doses according to animal tests.
Reproductive Toxicity	May be a reproductive hazard at very high level doses according to animal tests.
STOT-Single Exposure	Irritating to respiratory tract.
STOT-Repeated Exposure	May cause methemoglobinemia and anemia. Ingestion of large quantities will cause cyanosis. Nephritis can result from chronic exposure..
Aspiration Hazard	Not Available
Synergistic Materials	Not Available

Section 12 – Ecological Information

Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Sodium Nitrate	Not Available	LC_{50}(Orncorhynchus mykiss, 96hr): 1050mg/L	LC_{50}(Daphnia magna, 48hr): 323mg/L

Biodegradability Possibly hazardous short-term degradation products are not likely. However, long term degradation products may arise. The products of degradation are less toxic than the product itself.

Bioaccumulation Not expected to bioaccumulate.

Mobility Nitrates have a tendency to migrate into groundwater as they do not bind to soil and are extremely soluble.

Other Adverse Effects Not Available

Section 13 – Disposal Considerations

Waste From Residues/Unused Products Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Contaminated Packaging Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Section 14 – Transport Information

UN Number UN 1498

UN Proper Shipping Name Sodium nitrate

Transport Hazard Class(es) 5.1

Packaging Group III

Environmental Hazards Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.

Special Precautions Not Available

Transport in Bulk Not Available

Additional Information

Packing Group	Limited Quantity Index
III	5 Kg

TDG

Other Secure containers (full and/or empty) with suitable hold down devises during shipment and ensure all caps, valves, or closures are secured in the closed position.

TDG PRODUCT CLASSIFICATION: This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

Section 15 – Regulatory Information

NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.

Section 16 – Other Information

Preparation Date August 12, 2015

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

Attention: Receiver of the chemical goods / SDS coordinator

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution® initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

References:

1) CHEMINFO
2) eChemPortal
3) TOXNET
4) Transportation of Dangerous Goods Canada
5) HSDB
6) ECHA
7) PAN

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