Safety Data Sheet

Brooks 32

SECTION 1. IDENTIFICATION

Product Form Liquid Brine Solution

Substance Name Brooks 32

Product Code Calcium

Other Means Of Identification Calcium Chloride Brine, Dust Suppressant, Road Stabilizer, De-icing Brine, Concrete Conditioner, Tire Ballast, Heavy Water, Industrial Calcium Brine, Drill well Kill Fluid, $CaCl_2$

Recommended Use Industrial, Dust Control, De-icer, Tire Ballast, Oilfield Applications, Concrete Conditioning, Agricultural

Restrictions on Use Not for Ingestion

Initial Supplier Identifier

NSC Minerals Ltd.
2241 Speers Ave
Saskatoon, SK
CANADA
S7L 5X6
www.nscminerals.ca
Email: nsc@nscminerals.com

Emergency Telephone Number Call 1-306-934-6477, or 1-888-668-7258 (out-of-province, or international), Monday – Friday (8:00 AM – 4:00 PM CST)

SECTION 2. HAZARD IDENTIFICATION

Classification Clear to brownish liquid – Category 2, Serious eye damage.

Label Elements None

Signal Word (GHS-US) Warning

Hazard Statements (GHS-US) Causes Skin irritation / causes serious eye irritation.

Precautionary Statements

Prevention – Wear eye, face protection.
Response – Wash thoroughly after handling.
Storage – Store in well ventilated space a safe distance from incompatible materials.
Disposal – Dispose of water / residues in accordance with local authority requirements.

Other Hazards None Identified.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Common Name / Synonyms Liquid Calcium Chloride Solution

INGREDIENT NAME	% (W/W)	CAS NO.	GHS-US Classification
Water	65-70	7732-18-5	None
Calcium Chloride	21-23	10043-52-4	Skin/Eye Irritation
Magnesium Chloride	3-4	007791-18-5	None
Sodium Chloride	3-4.5	7647-14-5	None
Potassium Chloride	<3	7447-40-7	None

SECTION 4. FIRST AID MEASURES

4.1 FIRST AID BY ROUTE OF EXPOSURE

General	If medical advice is needed, have product container or label at hand.
Inhalation	If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Obtain medical attention if breathing difficulty persists.
Skin Contact	Wash skin thoroughly with mild soap and water. Obtain medical attention if irritation develops or persists.
Eye Contact	Immediately rinse with water for a prolonged period (15 minutes) while holding the eyelids wide open including upper and lower lids. Obtain medical attention if pain and irritation develops or persists.
Ingestion	Rinse mouth immediately. Do not induce vomiting. Administer water if patient is conscious. Ingesting will usually cause purging of the stomach by vomiting. Seek medical attention if a large amount is swallowed. Get medical advice and attention if you feel unwell.

4.2 Most Important Symptoms and effects, both acute and delayed.

Symptoms/injuries:	Irritation to eyes, skin and respiratory tract.
Symptoms/injuries after inhalation:	Overexposure may be irritating to the respiratory system.
Symptoms/injuries after skin contact:	May cause skin irritation.
Symptoms/injuries after eye contact:	May cause eye irritation.
Symptoms/injuries after ingestion:	If a large quantity has been ingested : Abdominal pain; Diarrhea; Nausea; Vomiting; Tingling in hands and feet; Weak pulse; Circulatory disturbances
Chronic Symptoms:	Prolonged inhalation of fumes may cause respiratory irritation.

4.3 Immediate medical attention and special treatment, if necessary

No additional information available.

SECTION 5. FIRE-FIGHTING MEASURE

5.1 EXTINGUISHING MEDIA

Suitable Extinguishing Media	Not Flammable. Non-Combustible. Isolate area and use extinguishing media appropriate for surrounding fire.
Unsuitable Extinguishing Media	None known.

5.2 SPECIFIC HAZARDS ARISING FROM PRODUCT

Fire Hazard	Not considered a fire hazard.
Explosion Hazard	Not considered an explosion hazard.
Reactivity	Stable at ambient temperature and under normal conditions of use.

5.3 ADVICE FOR FIREFIGHTERS

Special Fire-Fighting Procedures	Keep Upwind. Under conditions of fire this material may produce Calcium oxides; Hydrogen chloride gas. Containers close to fire should be removed immediately or cooled with water
Protection during fire-fighting	Wear full fire-fighting turn out gear (full Bunker gear) and respiratory protection (SCBA).
Other Information	Run-off from fire firefighting should not be allowed to enter drains, water courses or the soil

SECTION 6. ACCIDENTAL RELEASE MEASURE

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

General Measures	Do not breathe fumes from fires or vapors from decomposition. Spilled material may cause slippery surfaces, potential for falls.
Protective Equipment for Emergency & Non-Emergency Personnel	Wear suitable protective clothing, gloves and eye/face protection including tight fitting goggles in areas of high fume concentration. Wear NIOSH approved respiratory protective equipment when workplace conditions warrant use of respirator.
Small Spills	Isolate area, eliminate source and contain spilled material if possible, recover free liquid with absorbent mop or other appropriate means (sand) and collect for disposal. Dilute residues with water, recover liquid with absorbent. Repeat as necessary
Large Spills	Isolate area, eliminate source and contain with impermeable or absorbent barrier. Recover free liquid and treat residues as for small spills. Prevent spills from entering sewers or waterways.

6.2 ENVIRONMENTAL PRECAUTIONS

If spill could potentially enter any waterway, including intermittent dry creeks or in case of accident or road spill notify CHEMTREC at 800-424-9300 (in USA) or CANUTEC at 613-996-6666 (in Canada). In other countries call CHEMTREC at (International code) +1-703-527-3887.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

For Containment	Contain and collect all liquid. Do not allow into soils, ditches, drains or water courses or dispose of where ground or surface waters may be affected.
Methods for Cleaning Up	Recover the product by vacuuming or pumping to suitable containers. If uncontaminated, recover and reuse as product.

6.4 REFERENCE TO OTHER SECTIONS

No additional information available.

SECTION 7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Additional Hazards when Processing	When heated, material emits irritating fumes.
Precautions for Safe Handling	Handle in accordance with good industrial hygiene and safety procedures. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Hygiene Measures	Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

7.2 CONDITIONS FOR SAFE STORAGE

Storage Conditions:	Store in a secure, impermeable corrosion resistant container. Keep containers tightly closed in a dry, cool, and well-ventilated place.
Packaging materials to be avoided	Metal

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Use local exhaust ventilation if in enclosed spaces.

Occupational Exposure Guidelines

$CaCl_2$ airborne exposure:

- Time-Weight Average (TWA): 5mg/m^3

- Short-Term Exposure Limited (STEL): None
- Ceiling Limited (C): None

8.2 EXPOSURE CONTROLS

Appropriate engineering controls:	Ensure adequate ventilation (especially in confined areas), eye wash stations and shower recommended.
Personal protective equipment:	Gloves. Safety glasses. Protective clothing. 
Hand Protection:	Impermeable protective gloves.
Eye Protection:	For mist exposure and general handling wear chemical safety glasses. Contact lenses should not be worn.
Skin and Body Protection:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wear suitable protective clothing. Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practice. Wash clothing frequently.
Footwear:	Normal
Respiratory Protection:	Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of dust are expected to exceed exposure limits.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Color	Clear to brownish
Odor	Slight acrid odor.
Odor threshold	No data available
pH	4-5
Relative Evaporation Rate (butylacetate=1)	No data available
Melting Point	Not applicable
Freezing Point	-43ºC
Boiling Point	230-250ºF (110-121ºC)
Flash Point	No data available
Self-Ignition temperature	Not flammable
Decomposition temperature	No date available
Flammability (solid, gas)	Not flammable
Vapor Pressure	9-15mm Hg@25ºC (77ºF)
Relative Vapor Density at 20ºC	No data available
Relative Density	1.2-1.32 @ 15.6ºC
Density	No data available
Solubility	26%
Log P_{ow}	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available

Explosive properties	None known
Oxidizing properties	None known
Explosive limits	Not explosive

9.2 OTHER INFORMATION

VOC Content	No Data Available
Bulk Density	No Data Available
Molecular Formula	$CaCl_2$

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Stable at ambient temperature and under normal conditions of use.
Chemical Stability	Stable at standard temperature and pressure.
Possibility of Hazardous Reactions	Hazardous polymerization will not occur.
Conditions to Avoid	None known
Incompatible Materials	Avoid contact with bromide trifluoride, methyl vinyl ether, 2-furan percarbolic acid, zinc.
Hazardous Decomposition Products	Contact with zinc forms flammable hydrogen gas. Formed under fire conditions – calcium oxide/hydrogen chloride gas.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity Not Classified

Calcium chloride (10043-52-4)	
LD_{50} oral rat	1 g/kg
LD_{50} dermal rat	2.6 g/kg
LC_{50} inhalation rat (mg/l)	No data available
Magnesium chloride (007791-18-6)	
LD_{50} oral rat	8 g/kg
LD_{50} dermal rat	No data available
LC_{50} inhalation rat (mg/l)	No data available
Sodium chloride (7647-14-5)	
LD_{50} oral rat	1 g/kg
LD_{50} dermal Rabbit	10 g/kg
LC_{50} inhalation rat (mg/l)	No data available
Potassium chloride (7747-40-7)	
LD_{50} oral rat	2.6 g/kg
LD_{50} dermal rat	No data available
LC_{50} inhalation rat (mg/l)	No data available

Serious Eye Damage / Irritation Can cause serious eye irritation

STOT (Specific Target Organ Toxicity) - Single Exposure Not Classified

STOT (Specific Target Organ Toxicity) - Repeated Exposure	Not Classified
Aspiration Hazard	Can cause irritation
Respiratory and/or Skin Sensitization	Can cause irritation
Reproductive Toxicity	Not Classified
Germ Cell Mutagenicity	Not Classified
Carcinogenicity	Not Classified
Routes of exposure	Absorption through skin and eye

SECTION 12. ECOLOGICAL INFORMATION

Eco toxicity	This product is practically harmless to aquatic organisms on an acute basis. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment and should be cleaned up immediately.
Environmental Fate	No Data Available
Toxicity	LC_{50} 96hr value > 100 mg/l
Degradation Products	Inorganic material not subject to bio degradation

SECTION 13. DISPOSAL CONSIDERATIONS

Sewage Disposal Recommendations	This material may be hazardous to the aquatic environment. Prevent large or frequent spills from entering sewers and waterways.
Waste Disposal Recommendations	Place in an appropriate container and dispose of the contaminated material at a licensed site.
Additional Information	Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14. TRANSPORT INFORMATION

In accordance with DOT / TDG / ADR / RID / ADNR / IMDG / ICAO / IATA

UN Number	Not Regulated
Proper Shipping Name	Not Regulated
Hazard Class(es)	Not Regulated
Packing Group	Not Regulated

SECTION 15. REGULATORY INFORMATION

15.1 US FEDERAL REGULATIONS

Calcium Chloride (10043-52-4) – Ingredients listed on the United States TSCA (Toxic Substances Control Act) Inventory

15.2 CANADIAN REGULATIONS

Calcium Chloride (10043-52-4) – Ingredients listed on the Canadian DSL (Domestic Substances List) Inventory

WHMIS Classification 1988, D2B Toxic Materials

SECTION 16. OTHER INFORMATION

NFPA Health Hazard	**2 – Exposure could cause irritation.**
NFPA Fire Hazard	0 – Materials that will not burn.
NFPA Reactivity	0 – Normally stable, even under fire exposure conditions, and are not reactive with water.

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Prepared by NSC Minerals Ltd.

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