SAFETY DATA SHEET

ALTURA PRO CAL+ — FOOD GRADE CALCIUM CHLORIDE GRANULES (94%)

CAS No.: 10043-52-4

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

ALTURA PRO CAL+ – FOOD GRADE CALCIUM CHLORIDE GRANULES (94%)
Calcium Chloride; Calcium Dichloride; E509

CAS: 10043-52-4

Other means of identification

Not relevant

Recommended use of the chemical and restrictions on use

Relevant uses: Food-grade firming/coagulating agent (E509) for cheese, canned vegetables and tofu manufacture; brine refrigeration; de-icing; desiccant; oil-field and construction applications. For industrial and food-processing use only.

Uses advised against: All uses not specified in this section or in section 7.3. Not for direct unsupervised human consumption outside approved food-additive dosing.

Supplier's details

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), based on well-established public data for calcium chloride (CAS 10043-52-4).

Eye Irrit. 2	Eye irritation, Category 2, H319

Not classified as flammable, corrosive or acutely toxic under standard GHS criteria. Dissolution in water is strongly exothermic and can cause thermal (not chemical) skin/eye discomfort if concentrated solution is hot.

GHS label elements, including precautionary statements

GHS: Warning

Hazard statements

H319: Causes serious eye irritation.

Precautionary statements

P264: Wash exposed skin thoroughly after handling.
P280: Wear eye protection/face protection.
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 local/regional/national regulations.

Other hazards which do not result in classification

Dissolving in water is strongly exothermic; the resulting hot solution can cause thermal burns. Hygroscopic – absorbs atmospheric moisture readily. Not a PBT/vPvB substance.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Calcium Chloride ($CaCl_2$), food grade granules

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 10043-52-4	Calcium Chloride – Eye Irrit. 2: H319 – Warning	≥94%
–	Other alkali/alkaline-earth chlorides (process residual), water of hydration	Balance

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

Mixtures

Non-applicable (technical/food-grade single substance with minor process residuals as above)

4. FIRST AID MEASURES

Description of necessary first-aid measures

Request medical assistance if symptoms are severe or persist, showing the SDS of this product.

By inhalation

Dust may irritate the respiratory tract. Remove person to fresh air and keep comfortable for breathing. Seek medical attention if discomfort continues.

By skin contact

Brush off excess solid. Rinse skin with plenty of water. Prolonged contact with concentrated solution may cause mild irritation or thermal warmth; wash and dry thoroughly.

By eye contact

Rinse eyes thoroughly with lukewarm water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek medical attention if irritation persists.

By ingestion/aspiration

Rinse mouth with water. Large doses may cause gastrointestinal irritation. Give water to drink if the person is conscious. Do not induce vomiting. Seek medical advice if discomfort occurs.

Most important symptoms/effects, acute and delayed

Eye irritation is the principal acute effect. Dust may cause transient irritation of the nose, throat and respiratory tract. See sections 2 and 11.

Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically. No specific antidote required.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Use extinguishing media appropriate to the surrounding fire (water spray, foam, dry chemical, CO_2).
Unsuitable: None known.

Specific hazards arising from the chemical

Non-combustible, non-flammable. Not classified as an oxidiser. No unusual fire or explosion hazards. Contact with water generates heat.

Special protective actions for fire-fighters

No special measures required beyond standard fire-fighting practice. Wear self-contained breathing apparatus in enclosed or poorly ventilated areas.

Additional provisions

Cool fire-exposed containers with water spray if safe to do so.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid dust generation. Use PPE described in section 8. Ensure adequate ventilation.

For emergency responders

Wear appropriate protective equipment (see section 8). Avoid creating dust.

Environmental precautions

Avoid large releases to soil, drains or watercourses; can locally raise salinity/chloride levels. Contain if possible.

Methods and materials for containment and cleaning up

Sweep up or vacuum dry material and place in a suitable, labelled container for reuse or disposal. Avoid generating dust. Wash residual traces with water only where discharge is permitted; otherwise collect washings for disposal.

Reference to other sections

See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use

Avoid contact with eyes. Avoid generating and inhaling dust. Use with adequate ventilation.

B. Technical recommendations for the prevention of fires and explosions

Non-combustible; no specific fire/explosion prevention measures required beyond general good practice.

C. Technical recommendations on general occupational hygiene

Do not eat, drink or smoke while handling. Wash hands thoroughly after handling.

D. Technical recommendations to prevent environmental risks

Prevent uncontrolled discharge to drains or watercourses.

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Storage condition	Store in tightly closed containers/bags in a cool, dry, well-ventilated place, away from moisture
Incompatible materials	Strong oxidisers, bromine trifluoride, 2-furan percarboxylic acid, zinc

B. General conditions for storage

Hygroscopic – keep containers sealed to prevent caking. Keep off damp floors.

Specific end use(s)

Food-grade firming/coagulant agent for use in approved food-processing applications within statutory dosage limits; also used for de-icing, dust control and industrial brine. Except for the instructions already specified, no other special recommendation applies.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Identification	Occupational Exposure Limit Type	Value
Calcium Chloride CAS: 10043-52-4	No specific OEL established (treat as particulate not otherwise classified)	PNOC/inert dust general limit: 10 mg/m³ (total dust) / 3 mg/m³ (respirable)

Appropriate engineering controls

Provide local exhaust ventilation where dust is generated to keep airborne concentrations below occupational exposure limits.

B. Respiratory protection

Not normally required with adequate ventilation; use a dust/particulate filter respirator (FFP2 type) if dust levels are elevated.

C. Specific protection for the hands

Chemical-resistant gloves recommended for prolonged or repeated contact.

D. Eye and face protection

Safety glasses with side shields or chemical goggles.

E. Bodily protection

Standard food-industry/work clothing; launder if contaminated.

F. Additional emergency measures

Eyewash station and washing facilities should be available in the work area.

Environmental exposure controls

Prevent uncontrolled discharge to the environment; see subsection 7.1.D.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Solid (granules/pellets)
Appearance	White to off-white granules
Color	White
Odor	Odorless
Odour threshold	Not applicable
Volatility	
Boiling point	>1600°C (decomposes)
Melting point/freezing point	772–775°C (anhydrous)
Vapour pressure	Negligible
Evaporation rate	Not applicable (solid)
Product Description	
Molecular weight	110.98 g/mol
Density (bulk)	2.15 g/cm³
pH (5% aqueous solution)	8.0–9.0 (slightly alkaline)
Solubility in water at 20°C	~745 g/L (highly soluble, exothermic)
Partition coefficient n-octanol/water	Not applicable (inorganic salt)
Decomposition temperature	Not established (stable up to melting point)
Flammability	
Flash Point	Non-applicable (non-combustible solid)
Flammability (solid, gas)	Not flammable
Autoignition temperature	Not applicable
Lower / Upper flammability limit	Not applicable

Values are typical for commercial food-grade (94%) calcium chloride granules; minor batch-to-batch variation is normal.

Other information

Explosive properties	Not applicable
Oxidising properties	Not classified as an oxidiser
Corrosive to metals	Not classified; concentrated solutions may accelerate corrosion of some metals

10. STABILITY AND REACTIVITY

Reactivity

Reacts exothermically with water. Reacts violently with bromine trifluoride and with a mixture of zinc and 2-furan percarboxylic acid.

Chemical stability

Chemically stable under the indicated conditions of storage, handling and use. Hygroscopic.

Possibility of hazardous reactions

Hazardous polymerisation does not occur. Under specified conditions, hazardous reactions leading to excessive temperature or pressure are not expected.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Absorbs moisture (deliquescent)	Not applicable	Not applicable	Keep sealed – hygroscopic/caking

Incompatible materials

Strong oxidising agents, bromine trifluoride, zinc combined with 2-furan percarboxylic acid.

Hazardous decomposition products

None under normal conditions of storage and use; thermal decomposition at very high temperature may release hydrogen chloride fumes.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect)

Low acute oral toxicity. Large doses may cause gastrointestinal irritation, nausea and vomiting.

B. Inhalation (acute effect)

Dust may cause irritation of the nose, throat and respiratory tract.

C. Contact with skin and eyes (acute effect)

Skin: may cause mild irritation on prolonged contact, particularly with concentrated solutions. Eyes: causes serious eye irritation (see section 2).

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. Not listed by IARC, NTP or OSHA as a carcinogen.

E. Sensitizing effects

Classification criteria for respiratory or skin sensitisation are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure

Classification criteria are not met based on available data.

G. Specific target organ toxicity (STOT) – repeated exposure

Classification criteria are not met based on available data.

H. Aspiration hazard

Not applicable (solid).

Product-specific toxicological information

Identification	Acute Toxicity	Genus
Calcium Chloride CAS: 10043-52-4	LD50 oral: 1000–1400 mg/kg	Rat
	LD50 dermal: >2500 mg/kg (no data indicating high dermal toxicity)	Rabbit

12. ECOLOGICAL INFORMATION

Low acute aquatic toxicity; elevated chloride/salinity loading is the main environmental concern at high discharge volumes.

Toxicity

Acute Toxicity	Species	Genus
LC50: ~4630 mg/L (96h)	Pimephales promelas	Fish
EC50: ~2630 mg/L (48h)	Daphnia magna	Crustacean

Persistence and degradability

Inorganic salt; biodegradation is not applicable. Fully dissociates in water to calcium and chloride ions.

Bioaccumulative potential

Not expected to bioaccumulate (log Pow not applicable for an ionic inorganic salt).

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
Not applicable	Not applicable	Highly soluble/mobile once dissolved	

Results of PBT and vPvB assessment

Not applicable (inorganic substance; PBT/vPvB criteria apply to organic substances).

Other adverse effects

Large discharges may locally increase salinity and chloride concentration in soil and water bodies.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Not classified as hazardous waste under normal use. Dissolve and neutralise/dilute in accordance with local discharge consent, or dispose of via a licensed waste contractor. Empty containers may retain product residue – handle with the same precautions as the full product.

Refer to national and local regulations on waste management.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR/RID)

14.1 UN number	Not regulated
14.2 UN proper shipping name	Calcium Chloride – non-hazardous for transport
14.3 Transport hazard class(es)	N/A
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	None
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not applicable

Transport of dangerous goods by sea (IMDG)

14.1 UN number	Not regulated
14.2 UN proper shipping name	Calcium Chloride – non-hazardous for transport
14.3 Transport hazard class(es)	N/A
14.4 Packing group	N/A
14.5 Marine pollutant	No
14.6 Special precautions for user	None
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not applicable

Transport of dangerous goods by air (IATA/ICAO)

14.1 UN number	Not regulated
14.2 UN proper shipping name	Calcium Chloride – non-hazardous for transport
14.3 Transport hazard class(es)	N/A
14.4 Packing group	N/A
14.5 Environmental hazard	No
14.6 Special precautions for user	None
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not applicable

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

Permitted as a food additive (E509) subject to Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011 and Codex Alimentarius GSFA limits for the relevant food category. It is recommended to use the information in this SDS as data for a local risk evaluation for handling, use, storage and disposal.

Other legislation

Food Safety and Standards Act, 2006 and associated Regulations (India)
Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)

16. OTHER INFORMATION

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3

H319: Causes serious eye irritation.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources

Publicly available GHS classification and physicochemical reference data for calcium chloride (CAS 10043-52-4).

Abbreviations and acronyms

LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer | PBT: Persistent, Bioaccumulative and Toxic | vPvB: Very Persistent and Very Bioaccumulative

Disclaimer: The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

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