

SAFETY DATA SHEET
In accordance with ISO 11014: 2009

Section 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Product name Calcium Hypochlorite, Granular
STAR-CHLON 70G

Manufacture/supplier

Manufacture/supplier Nankai Chemical Co.,Ltd. Tosa factory
Department in Charge Production Department & Quality Assurance Group
Address 4-10-1, Sanbashidori, Kochi-shi,Kochi ,Japan
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+81-88-831-6191(Tosa Factory)
Reference No. 218 November 25,1992 The 1st edition
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Recommended use and restriction on use

Sterilization, disinfection

Section 2: HAZARDS IDENTIFICATION

Important hazards**GHS classification****Physical Hazards**

Oxidizing solids Category 2

Health Hazards

Acute toxicity (oral): Category 4
Skin irritation/corrosion: Category 1
Eye damage/irritation: Category 1
Skin sensitization: Category 1
Specific target organ toxicity (single exposure): Category 2 (central nervous system)

Environmental Hazards

Ecotoxicity (acute) Category 1
Ecotoxicity (chronic) Category 1

Label Elements**Pictogram**

Signal word

Hazard Statements

Danger

May intensify fire; oxidizer

Harmful if swallowed

Causes severe skin burns and eye damage

May cause an allergic skin reaction

Causes serious eye damage

May cause damage to central nervous system

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

Precautionary Statements

[Prevention]

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Keep/Store away from clothing/combustible materials.

Take any precaution to avoid mixing with combustibles.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing should not be allowed out of the workplace.

Avoid release to the environment.

Wear protective gloves/protective clothing/eye protection/face protection.

[Emergency response]

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of water.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Call a POISON CENTER/doctor.

Immediately call a POISON CENTER/doctor.

Rinse mouth.

If skin irritation or rash occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

Wash contaminated clothing before reuse.

In case of fire: Use appropriate extinguishing agent to extinguish.

Collect spillage.

[Storage]

Store locked up.

[Disposal]

Dispose of contents/ container in accordance with related laws and local/ regional regulations.

Other hazards

No information

Important symptoms and an outline of an anticipated emergency

Harmful if swallowed
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Causes serious eye damage
May cause damage to central nervous system

Section 3: COMPOSITION/ INFORMATION ON INGREDIENTS

Substance/Mixture

Substance

Compositions

Chemical name/ Generic name	CAS number	Concentration (wt %)
Calcium hypochlorite	7778-54-3	More than 70% available chlorine

Section 4: FIRST-AID MEASURES

First aid procedures

IF INHALED	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a doctor or a doctor.
IF ON SKIN	Remove immediately contaminated clothing and shoes. Wash contaminated areas with plenty of water. Get medical advice if needed. Immediately call a doctor or a doctor. Wash clothing when reusing contaminated clothing.
IF IN EYES	Immediately rinse cautiously with water for 15 - 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms continue, call a POISON CENTER or doctor/physician. Immediately call a doctor or a doctor.
IF SWALLOWED	Rinse mouth. Do not induce vomiting. Immediately get medical advice/attention. Immediately call a doctor or a doctor.

Anticipated acute effects, anticipated delayed effects and most important symptoms/effects

Harmful if swallowed
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Causes serious eye damage
May cause damage to central nervous system

Protection of first-aiders

Wear appropriate eyes and skin protective equipment.

Note to an attending physician

No information

Section 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Water fog, dried chemical powder (Except hydrogenated carbonate), fire foam or dry sand.

Unsuitable extinguishing media

Powder digesting agent of carbon dioxide gas and hydrogenated carbonate

Specific hazards arising from the chemical

In case of fire, irritating, corrosive or toxic gases may be generated.

The container may explode due to heating.

If got caught in a fire, there is a possibility to accelerate combustion.

If heated or caught in a fire, there is a danger of explosive decomposition.

Immediately move all the movable containers to safe area.

Keep containers cool even after extinction.

Do not move the container exposed to heat.

If water is not supplied sufficiently, lower the vapor concentration.

Protective equipment and precautions for firefighters

Fire fighters should wear appropriate protective equipment (e.g. fireproof clothing and respiratory protective equipment).

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear suitable protective equipment described in Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION in order to avoid contact with eyes, skin and inhalation.

Do not touch or walk through spilled material.

Isolate spill or leak area immediately in all directions.

Keep out except responsible personnel.

Ventilate a closed place before entering.

Environmental precautions

Avoid release into the environment.

Methods and materials for containment and cleaning up

Collect leaking materials and recover in an empty container that can be hermetically closed, then install general ventilation.

Avoid disperse by giving moisture to dust in the air.

Secondary disaster prevention measures

Cover the spilled material with plastic sheet to avoid scattering.

Section 7: HANDLING AND STORAGE

Handling

Technical measures	Install appropriate equipment and wear suitable protective apparatus described in SECTION 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION. Install local ventilation/general ventilation described in SECTION 8. Exposure controls/personal protection.
Precautions for safe handling	Wash hands and face thoroughly after handling. Do not eat, drink or smoke when handling this product. Keep away from heat. Avoid contact with eyes and skin. Do not swallow this product. Do not breathe dust/fume/gas/mist/vapours/spray.
Prevention of contact	Refer to Section 10: STABILITY AND REACTIVITY.

Storage

Technical measures	Follow regulations in the fire safety act.
Conditions for safe storage	Use an airtight and light resistant container. Store in a cool place. Lock it and keep it safe. Avoid high-temperature materials. Keep away from contraindicated substances.

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration**Occupational Exposure Limits**

ACGIH TLV-TWA (2017)	3 mg/m ³ (Insoluble respirable particles not other specified) 10 mg/m ³ (Insoluble inhalable particles not other specified)
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Engineering controls

Take precautionary measures i.e. installing eye washer, safety shower and hand washer around the handling place.
Install entire ventilation systems or local exhaust ventilation systems in a handling place.

Personal protective equipment

Respiratory protection	In case of dust generation, wear appropriate protective mask or air aspirator as required.
Hand protection	If hand contact is possible, wear protective gloves.
Eye protection	Wear safety glasses or goggles if in eyes.
Skin and body protection	Wear protective clothing and apron if necessary.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, form and colour)	White granules
Odour	Chlorine odour
Odour threshold	No information
pH	No information
Melting point/ freezing point	100°C
Boiling point, initial boiling point and boiling range	No information
Flashpoint	No information
Evaporation rate	No information
Flammability	No information
Upper/lower explosive limits	No information
Vapour pressure	No information
Vapour density	No information
Specific gravity	2.35 (20°C)
Solubility	21.4% (25°C, water)
<i>n</i> -octanol/water partition coefficient	No information
Auto-ignition temperature	No information
Decomposition temperature	177°C
Viscosity	No information
Other information	No information

Section 10: STABILITY AND REACTIVITY

Chemical stability	Stable under normal handling condition.
Hazardous reactions	No hazardous reaction expected under normal handling.
Conditions to avoid	Avoid sunlight. Store in a cool place.
Incompatible materials	Combustible substance, reducing substance
Hazardous decomposition products	In case of fire, toxic decomposition products may be generated.

Section 11: TOXICOLOGICAL INFORMATION

Toxicological information for product

No information

Toxicological information for ingredients

Calcium hypochlorite

Acute toxicity (oral):	Rat LD ₅₀ = 790 mg/kg
Acute toxicity (dermal):	Rabbit LD ₅₀ > 2,000 mg/kg
Skin irritation/corrosion:	Reported as "highly corrosive" to rabbit skin.
Eye damage/irritation:	Reported as "highly corrosive" to rabbit eyes, and caused loss of epithelium from corneas and conjunctivas after application to rabbit eyes. A pH of this substance is reported as 11.5.
Skin sensitization:	Since the substance is listed in the Frosch contact allergen list (FROSCH, TEXTBOOK OF CONTACT DERMATITIS).
Specific target organ toxicity (single exposure):	Moderate central nervous system suppression effect was noted in rat oral acute toxicity test.

Section 12: ECOLOGICAL INFORMATION

Ecological information for product

Ecotoxicity	No information
Persistence and degradability	No information
Bioaccumulative potential	No information
Mobility in soil	No information
Hazardous to the ozone layer	Not applicable

Ecological information for ingredients

Calcium hypochlorite

Ecotoxicity (acute)	Fish (<i>Rainbow trout and Channel catfish</i>) 96 h LC ₅₀ = 0.06 mg free chlorine/L
Ecotoxicity (chronic)	Fish (<i>Tribolodon hakonensis</i>) 133 day NOEC = 0.005 mg/L Crustacean (<i>One type of Daphnia species</i>) 48 h LC ₅₀ = 0.005 - 0.006 mg/L
Persistence and degradability	No information
Bioaccumulative potential	No information
Mobility in soil	No information
Hazardous to the ozone layer	Not applicable

Section 13: DISPOSAL CONSIDERATIONS

Remaining product

Be as harmless as possible before disposing.
Stabilize and neutralize.
Reduce the hazards risk.
Dispose of waste in accordance with applicable local, regional and international regulations and standards.

Contaminated containers and packaging

Used container should be recycled after cleaning or dispose of in compliance with related laws and local regulations.
Contents should be removed completely when dispose of empty containers.

Section 14: TRANSPORT INFORMATION

International regulation

UN number	3487
UN proper shipping name	CALCIUM HYPOCHLORITE, HYDRATED, CORROSIVE or CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, CORROSIVE with not less than 5.5% but not more than 16% water
Transport hazard class (es)	5.1
Subsidiary risk	8
Packing group	II
Marine pollutant	Applicable
IBC Code	Applicable (Calcium hypochlorite solution (more than 15%))

When transporting, confirm no damage to containers. Avoid handling violently or leaking wet. Load to prevent fall or falling down containers and take preventive measures of collapse.

Section 15: REGULATORY INFORMATION

US Federal regulation

TSCA inventory: Registered

EU regulation

The product and its ingredients are not regulated by specific provisions related to protection of human health or the environment at EU level, e.g. not considered as SVHCs or POPs.
(EC) 1272/2008 (Annex VI, Table 3.1, Table 3.2): Listed

Section 16: OTHER INFORMATION

Reference

Information of Nankai Chemical Co., Ltd.
Ministry of Health, Labor and Welfare, Industrial Safety & Health Association SDS information for GHS (2017)
NITE GHS classification results (2017)
ACGIH, American Conference of Governmental Industrial Hygienists (2017) TLVs and BEIs

[Disclaimer]

This SDS has been prepared on the basis of laws, regulations and information available at this time. It is user's responsibility to modify or update any contents in this SDS regarding information on hazardous properties and/or instruction for safe handling of the product when they become available. Precautionary measures in this SDS are only applicable for normal handling conditions and it is necessary to take appropriate additional measures to ensure safe handling which depend on your specific use conditions or situations.