# SAFETY DATA SHEET

according to Regulation (EC) No 1272/2008 (CLP)

# Lime sulfur 45% crystal

Shanghai Bosman Industrial Co., Limited

| | | | |
|---|---|---|---|
| Product name | **Lime sulfur 45% crystal** | SDS number | **BM-SDS-9253** |
| Version | **1.0** | Revision date | **04 November 2026** |
| Supersedes | **Not applicable - new document** | Print date | **04 November 2026** |
| Language | **EN** | Format | **GHS / CLP - 16 sections** |

## 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product identifier

| | |
|---|---|
| **Trade name** | Lime sulfur 45% crystal |
| **Product type** | Crystalline solid plant protection product (calcium polysulfide crystals) |
| **Active substance** | Calcium polysulfide (CAS 1344-81-6) |

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

| | |
|---|---|
| **Identified use** | Alkaline sulfur fungicide, insecticide and acaricide for the control of powdery mildew, rust, scab, scale insects and mites on orchard, vine and ornamental crops, and for dormant-season treatment, in accordance with the label. For professional users only. |
| **Uses advised against** | Any use other than the identified use. Not for domestic or residential use. Do not use on crops or sites not stated on the label. |

### 1.3 Details of the supplier of the safety data sheet

| | |
|---|---|
| **Supplier** | Shanghai Bosman Industrial Co., Limited |
| **Address** | No. 1611, North Sichuan Road, Hongkou District,<br>Shanghai 200080, P.R. China |
| **Telephone** | +86 21 6306 5878 |
| **Fax** | +86 21 6091 1557 |
| **E-mail** | info@bosmangroup.com |
| **Website** | www.bosmangroup.com |

### 1.4 Emergency telephone number

| | |
|---|---|
| **24-hour emergency line** | +86 21 6356 6528 (Shanghai Bosman Industrial Co., Limited, 24 h) |
| **Poison centre** | Contact your local poisons information centre or emergency services (e.g. 120 in mainland China) in case of poisoning. |

## 2 HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP), Annex I.

| | |
|---|---|
| H315 | Skin Irrit. 2 — Causes skin irritation. |
| H318 | Eye Dam. 1 — Causes serious eye damage. |
| H335 | STOT SE 3 — May cause respiratory irritation. |

| | |
|---|---|
| H400 | Aquatic Acute 1 — Very toxic to aquatic life. |
| H411 | Aquatic Chronic 2 — Toxic to aquatic life with long lasting effects. |

### 2.2 Label elements



SIGNAL WORD
**DANGER**

| | |
|---|---|
| H315 H318 H335 H400 H411 | Causes skin irritation. Causes serious eye damage. May cause respiratory irritation. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects. |

Supplemental hazard statements: EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

#### Precautionary statements - Prevention

| | |
|---|---|
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |
| P260 | Do not breathe dust, fume, gas, mist, vapours or spray. |
| P273 | Avoid release to the environment. |

#### Precautionary statements - Response

| | |
|---|---|
| P302+P352 | IF ON SKIN: Wash with plenty of water. |
| P332+P313 | If skin irritation occurs: Get medical advice or attention. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. |
| P310 | Immediately call a POISON CENTER or doctor. |
| P308+P313 | IF exposed or concerned: Get medical advice or attention. |
| P314 | Get medical advice or attention if you feel unwell. |
| P313 | Get medical advice or attention. |
| P391 | Collect spillage. |

#### Precautionary statements - Storage

| | |
|---|---|
| P402+P404 | Store in a dry place. Store in a closed container. |
| P410+P403 | Protect from sunlight. Store in a well-ventilated place. |

#### Precautionary statements - Disposal

| | |
|---|---|
| P501 | Dispose of contents and container to a licensed hazardous-waste contractor. |

### 2.3 Other hazards

This mixture contains substances classified as hazardous to the aquatic environment. See Section 12 for the supporting ecotoxicity data.

This mixture does not contain any substance that is identified as having endocrine-disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100, at a concentration of 0.1 % (w/w) or higher.

## 3 COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1 Substances

Not applicable - this product is a mixture.

### 3.2 Mixtures

| Component | CAS No. | EC No. | Concentration | Classification (CLP) |
|---|---|---|---|---|
| **Calcium polysulfide** | 1344-81-6 | 215-709-2 | 45 % w/w | Skin Irrit. 2 (H315); Eye Dam. 1 (H318); STOT SE 3 (H335); Aquatic Acute 1 (H400); Aquatic Chronic 2 (H411) |

| Component | CAS No. | EC No. | Concentration | Classification (CLP) |
|---|---|---|---|---|
| **Formulants (inert carriers, anti-caking agents)** | - | - | Balance | Not classified |

Calcium polysulfide (lime sulfur) is not listed with a harmonised classification in Annex VI to Regulation (EC) No 1272/2008. The classification applied here is a self-classification based on the product concentration (45 % w/w) and the known irritant/corrosive and aquatic properties of the substance, and on the characteristic release of toxic and flammable hydrogen sulfide gas on contact with water or acids (EUH029). Confirm against the current Annex VI entry before use.

EUH029 - contact with water liberates toxic gas (hydrogen sulfide, H2S).

## 4 FIRST AID MEASURES

### 4.1 Description of first aid measures

| | |
|---|---|
| **General advice** | Move the person out of the contaminated area. Show this safety data sheet to the doctor in attendance. Never give anything by mouth to an unconscious person. |
| **After inhalation** | Move the person into fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Call a physician. |
| **After skin contact** | Take off all contaminated clothing immediately. Wash the skin thoroughly with soap and plenty of water. If skin irritation or a rash develops, seek medical advice. |
| **After eye contact** | Rinse cautiously with water for at least 15 minutes, holding the eyelids open. Remove contact lenses if present and easy to do. Continue rinsing. Get medical advice if irritation develops. |
| **After ingestion** | Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention. |

### 4.2 Most important symptoms and effects, both acute and delayed

Corrosive/irritating to the eyes, skin and respiratory tract. Eye contact may cause serious, potentially permanent, eye damage. Ingestion may cause burning of the mouth, throat and stomach, nausea, abdominal cramps, vomiting and diarrhoea; the substance can release toxic hydrogen sulfide gas in the stomach. Inhalation of dust or vapour may cause sore throat, cough, breathlessness and headache.

### 4.3 Indication of any immediate medical attention and special treatment needed

No specific antidote. Treat symptomatically and supportively. For ingestion, do NOT induce vomiting (the product can release toxic hydrogen sulfide gas in the stomach); rinse the mouth, give water or milk to drink if the patient is conscious, and seek immediate medical attention. Administer oxygen if indicated for hydrogen sulfide exposure. In all cases show this safety data sheet to the attending physician.

## 5 FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

| | |
|---|---|
| **Suitable media** | Dry powder, dry sand or carbon dioxide. Avoid water jets. |
| **Unsuitable media** | Do not use a solid water stream - it may scatter and spread the fire. |

### 5.2 Special hazards arising from the substance or mixture

The crystalline product itself is not readily flammable, but contact with water or acids during firefighting liberates toxic and flammable hydrogen sulfide gas. Thermal decomposition may release toxic and irritant gases (sulfur oxides, hydrogen sulfide). Closed containers exposed to heat may rupture.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus and full protective clothing. Contain fire water run-off; do not allow it to enter drains or watercourses. Cool closed containers with water spray. Collect contaminated fire-fighting water separately.

## 6 ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Wear the personal protective equipment specified in Section 8. Avoid breathing vapour, mist or spray. Avoid contact with skin and eyes. Ensure adequate ventilation. Remove all sources of ignition where the product is flammable.

### 6.2 Environmental precautions

Do not allow the product to enter drains, sewers, watercourses or groundwater. Prevent the material from spreading. Notify the relevant authorities if the product has entered a watercourse or sewer, or has contaminated soil or vegetation.

### 6.3 Methods and material for containment and cleaning up

Sweep up the solid without raising dust and place it in a labelled, closed, dry container for disposal. Do not allow the product to enter drains, sewers or watercourses; contact with water or acids liberates toxic and flammable hydrogen sulfide gas. Ventilate the area.

### 6.4 Reference to other sections

See Section 8 for personal protection and Section 13 for disposal.

## 7 HANDLING AND STORAGE

### 7.1 Precautions for safe handling

- Handle in a dry, well-ventilated area. Avoid breathing dust or vapour.
- Avoid contact with skin and eyes; wear the personal protective equipment in Section 8.
- Do not eat, drink or smoke while handling; wash hands and face thoroughly afterwards.
- Keep containers tightly closed and dry; protect from moisture and rain.
- Keep separate from acids, acid gases and food/feedstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

- Store in the original, tightly closed, dry container in a cool, well-ventilated place.
- Protect from moisture, rain and direct sunlight; keep away from food, feed, seed and drinking water.
- Keep locked up and out of the reach of children and unauthorised persons.
- Store separately from acids and acid-forming substances; store in an area without drain or sewer access.
- Observe the product label and any national storage restrictions for plant protection products.

### 7.3 Specific end use(s)

Alkaline sulfur fungicide, insecticide and acaricide for the control of powdery mildew, rust, scab, scale insects and mites on orchard, vine and ornamental crops, and for dormant-season treatment, in accordance with the label. For professional users only.

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Component | Limit value | Type | Basis |
|---|---|---|---|
| **Calcium polysulfide (CAS 1344-81-6)** | No OEL established | - | No binding occupational exposure limit is listed; apply good occupational hygiene practice. |

No occupational exposure limit has been established for the active substance or for the formulated product. Apply the general hygiene standards of good occupational practice and the precautionary measures in Section 8.

### 8.2 Exposure controls

Use only in well-ventilated areas. Where the product is weighed or dissolved, provide local exhaust ventilation and avoid generating dust.

| Protective equipment | Requirement |
|---|---|
| **Eye protection** | Tight-fitting protective goggles (EN 166). |
| **Skin protection - hands** | Chemical-resistant gloves (e.g. nitrile rubber, EN 374). |
| **Skin protection - body** | Long-sleeved protective clothing and closed footwear. |

| Protective equipment | Requirement |
|---|---|
| **Respiratory protection** | Where dust, mist or vapour is generated or ventilation is inadequate, wear a suitable respirator (EN 149 FFP2 or EN 143). |

Do not eat, drink or smoke in work areas. Wash hands and face thoroughly after handling and before eating, drinking or smoking. Remove contaminated clothing and wash it before reuse.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| Property | Value |
|---|---|
| **Physical state** | Solid, crystalline |
| **Appearance** | Amber to reddish-yellow crystals |
| **Colour** | Amber to reddish-yellow |
| **Odour** | Characteristic sulfide (rotten-egg) odour |
| **pH** | Approx. 10 - 11 (10 % aqueous solution) |
| **Melting / freezing point** | Decomposes before melting |
| **Flash point** | Not applicable (solid formulation) |
| **Relative density** | Not determined for the crystalline form |
| **Bulk density** | Not available |
| **Solubility** | Soluble in water with decomposition; liberates hydrogen sulfide |
| **Explosive properties** | Not classified as explosive; dust clouds may be explosive |
| **Oxidising properties** | Not classified as oxidising |

9.2 Other information - no additional information available.

## 10 STABILITY AND REACTIVITY

### 10.1 Reactivity
Stable and unreactive under normal conditions of handling and storage.

### 10.2 Chemical stability
Stable under the recommended storage conditions.

### 10.3 Possibility of hazardous reactions
No hazardous reactions are expected under normal handling and storage.

### 10.4 Conditions to avoid
High temperatures, direct sunlight and moisture.

### 10.5 Incompatible materials
Strong oxidising agents; strong acids and bases.

### 10.6 Hazardous decomposition products
Thermal decomposition may release toxic and irritant gases (carbon oxides, nitrogen oxides, hydrogen chloride).

## 11 TOXICOLOGICAL INFORMATION

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

| Endpoint | Result | Species / basis |
|---|---|---|
| **Acute toxicity, oral** | Not classified as acutely lethal; corrosive/irritating if swallowed | Rat; no precise LD50 established |
| **Acute toxicity, dermal** | Irritating | Rabbit |

| Endpoint | Result | Species / basis |
|---|---|---|
| **Acute toxicity, inhalation** | Irritating to the respiratory tract | Rat |
| **Skin corrosion / irritation** | Irritating (Skin Irrit. 2, H315) | Rabbit |
| **Serious eye damage / irritation** | Serious eye damage (Eye Dam. 1, H318) | Rabbit |
| **Respiratory / skin sensitisation** | Not a sensitiser | - |
| **Germ cell mutagenicity** | Not classified | In vitro and in vivo data |
| **Carcinogenicity** | Not classified | No evidence of carcinogenic potential |
| **Reproductive toxicity** | Not classified | No evidence of reproductive toxicity |
| **STOT - single exposure** | Respiratory tract irritation (STOT SE 3, H335) | - |
| **STOT - repeated exposure** | Not classified | - |

### 11.2 Symptoms and effects

Corrosive/irritating to the eyes, skin and respiratory tract. Eye contact may cause serious, potentially permanent, eye damage. Ingestion may cause burning of the mouth, throat and stomach, nausea, abdominal cramps, vomiting and diarrhoea; the substance can release toxic hydrogen sulfide gas in the stomach. Inhalation of dust or vapour may cause sore throat, cough, breathlessness and headache.

### 11.3 Other information

The active substance calcium polysulfide is not listed with a harmonised classification in Annex VI to Regulation (EC) No 1272/2008. The classification applied here is a self-classification based on the product concentration (45 % w/w) and the known irritant/corrosive and aquatic properties of the substance, and on the characteristic release of toxic hydrogen sulfide on contact with water or acids (EUH029). It should be confirmed against the current Annex VI entry and the national registration dossier before use.

## 12 ECOLOGICAL INFORMATION

### 12.1 Toxicity

| Organism | Result | Test condition |
|---|---|---|
| **Fish (acute)** | LC50 (96 h) < 1 mg/L - very highly toxic | Active substance |
| **Aquatic invertebrates (acute)** | EC50 (48 h) < 1 mg/L - very highly toxic | Active substance |
| **Algae / aquatic plants** | EC50 < 1 mg/L - very highly toxic | Active substance; basis of the aquatic classification |

### 12.2 Persistence and degradability

Decomposes in the environment; calcium polysulfide reacts with water and acids to form calcium salts and hydrogen sulfide gas. It is not stable in the aquatic environment.

### 12.3 Bioaccumulative potential

Low potential for bioaccumulation.

### 12.4 Mobility in soil

Soluble (with decomposition) in water and mobile in aquatic systems. Prevent entry into drains and watercourses.

### 12.5 Results of PBT and vPvB assessment

The product and its active substance do not meet the criteria for PBT or vPvB substances in Annex XIII of Regulation (EC) No 1907/2006 (REACH).

### 12.6 Endocrine disrupting properties

No endocrine-disrupting properties are identified in accordance with the criteria of Commission Delegated Regulation (EU) 2017/2100.

### 12.7 Other adverse effects

Very toxic to aquatic life. Do not apply directly to water or where run-off may reach water. Contact with water liberates toxic hydrogen sulfide gas (EUH029).

## 13 DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Dispose of surplus product and empty packaging in accordance with national and local waste legislation. Do not contaminate water with the product or its packaging. Do not reuse empty containers for any purpose.

- Do not contaminate ponds, watercourses or ditches with the product or the empty container.
- Dispose of surplus product and non-recyclable packaging through a licensed hazardous-waste contractor, in accordance with national and local regulations.
- Empty containers retain product residues and vapour; observe all label safeguards until the container has been cleaned and destroyed.
- Triple-rinse emptied containers and add the rinsings to the spray tank; then puncture or crush and offer for recycling where facilities exist.

## 14 TRANSPORT INFORMATION

| Parameter | ADR / RID | IMDG | IATA |
|---|---|---|---|
| **UN number** | Not regulated | Not regulated | Not regulated |
| **Proper shipping name** | Not regulated | Not regulated | Not regulated |
| **Class** | Not regulated | Not regulated | Not regulated |
| **Packing group** | - | - | - |
| **Environmental hazard** | Yes | Yes | Yes |
| **Tunnel code** | - | - | - |
| **EmS / Special** | - | - | - |

### 14.6 Special precautions for user

The product is not classified as dangerous goods for transport in the packaging sizes supplied. Keep packages closed, upright and protected from moisture; do not load together with food or feed. Because the product is classified as hazardous to the aquatic environment, observe any national requirements for the transport of environmentally hazardous substances.

### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable - the product is transported in packaged form only.

## 15 REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture

- The product is a plant protection product and falls within the scope of Regulation (EC) No 1107/2009.
- Classification according to Regulation (EC) No 1272/2008 (CLP); the hazard statements are given in full in Section 16.
- National registration, labelling and use restrictions for plant protection products apply in the country of use.
- Where applicable, observe Directive 2009/128/EC on the sustainable use of pesticides and the national measures implementing it.

### 15.2 Chemical safety assessment

A chemical safety assessment is not required for this mixture. Exposure scenarios for the formulated product are covered by the label instructions and the risk assessment performed for the registration.

## 16 OTHER INFORMATION

### 16.1 Revision information

Version 1.0 - first issue. Prepared in accordance with Regulation (EC) No 1272/2008 (CLP) and the 16-section format of Annex II to Regulation (EU) 2020/878.

### 16.2 Full text of hazard statements referred to in Sections 2 and 3

| | |
|---|---|
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H335 | May cause respiratory irritation. |
| H400 | Very toxic to aquatic life. |
| H411 | Toxic to aquatic life with long lasting effects. |

### 16.3 Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ATE: Acute Toxicity Estimate. CAS: Chemical Abstracts Service. CLP: Classification, Labelling and Packaging (Regulation (EC) No 1272/2008). EC50: half maximal effective concentration. GHS: Globally Harmonised System. IMDG: International Maritime Dangerous Goods Code. LC50: lethal concentration, 50 %. LD50: lethal dose, 50 %. OEL: occupational exposure limit. PBT: persistent, bioaccumulative and toxic. PNEC: predicted no-effect concentration. STOT: specific target organ toxicity. vPvB: very persistent and very bioaccumulative.

### 16.4 Training advice

Users of this product must be trained in safe handling practice, in the correct use of personal protective equipment and in the first-aid measures described in Section 4. Label instructions and national training requirements apply.

### 16.5 Disclaimer

The information in this safety data sheet is based on the present state of knowledge and current legislation at the date of revision. It describes the product with regard to safety requirements and does not constitute a guarantee of any specific property. It remains the responsibility of the user to ensure that the product is used safely and in accordance with the label and applicable legislation. This safety data sheet is supplied for occupational health and safety purposes only.

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