

## SAFETY DATA SHEET

According to the Hazardous Products Regulations

# SUPER S(11-0-0-75)

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## SECTION 1. IDENTIFICATION

Product name : SUPER-S(11-0-0-75)  
Product code : 003E1919

### Manufacturer or supplier's details

Manufacturer/Supplier : H SULPHUR CORP  
161 Yongjam-ro Nam-gu, Ulsan, Korea  
Telephone : (+82) 522371811  
Telefax : (+82) 522371815  
Emergency telephone number : KOREA (82): 2 3448 5155

### Recommended use of the chemical and restrictions on use

Recommended use : Industrial Fertiliser  
Restrictions on use : This product must not be used in applications other than those recommended in Section 1, without first seeking the advice of the supplier.

## SECTION 2. HAZARDS IDENTIFICATION

### GHS Classification

Skin irritation : Category 2

### GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : **PHYSICAL HAZARDS:**  
Not classified as a physical hazard under GHS criteria. **HEALTH HAZARDS:**  
H315 Causes skin irritation. **ENVIRONMENTAL HAZARDS:**  
Not classified as an environmental hazard under GHS criteria.

Precautionary statements : **Prevention:**  
P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves/ eye protection/ face protection.  
**Response:**  
P302 + P352 IF ON SKIN: Wash with plenty of water.  
P362 Take off contaminated clothing and wash before reuse.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
**Storage:**  
P403 Store in a well-ventilated place.  
**Disposal:**  
No precautionary phrases.

### Other hazards which do not result in classification

Not classified as flammable but will burn. Accumulation of dust can create an explosion hazard. This material is a static accumulator.

Even with proper grounding and bonding, this material can still accumulate an electrostatic charge.

If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air- vapour mixtures can occur.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance  
Substance name : SUPER S

### Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Sulphur	7704-34-9	75

### Further information

Chemical name	Identification number	Concentration [%]
Urea	57-13-6	25

## SECTION 4. FIRST-AID MEASURES

- If inhaled : The victim must be moved to a place with fresh air and move to the nearest medical
- In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.  
If persistent irritation occurs, obtain medical attention.
- In case of eye contact : Flush eye with copious quantities of water for at least 15minutes.  
If persistent irritation occurs, obtain medical attention.
- If swallowed : In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

## SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
- Unsuitable extinguishing media : Do not use water in a jet.
- Specific hazards during fire- fighting : Hazardous combustion products may include:  
A complex mixture of airborne solid and liquid particulates and gases (smoke).  
Oxides of sulphur.  
Hydrogen sulphide (H<sub>2</sub>S) and other toxic sulphur oxides may be given off when this material is heated. Do not depend on sense of smell for warning.  
Accumulation of dust can create an explosion hazard. Sulphur burns with a pale blue flame that may be difficult to see in daylight.  
Burning sulphur will flow.
- Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

## SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Avoid contact with skin, eyes and clothing.
- Environmental precautions : Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.

- Methods and materials for containment and cleaning up : For solids, shovel into a suitable clearly marked container for disposal or reclamation in accordance with local regulations.  
Avoid contact with skin, eyes and clothing.  
Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet.  
Take precautionary measures against static discharges.

## SECTION 7. HANDLING AND STORAGE

- General Precautions : Avoid contact with skin, eyes and clothing.  
Advice on safe handling : Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment reduce the risk. Ensure that all local regulations regarding handling and storage facilities are followed.  
Avoid prolonged or repeated contact with skin.  
Avoid generation or accumulation of dusts as it can generate an explosion hazard  
Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.  
Keep container tightly closed and in a cool, well-ventilated place.
- Avoidance of contact : Strong oxidising agents.  
Product Transfer : Keep containers closed when not in use. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur. Even when the product is not itself flammable, such vapours may be present as a result of operations involving a previously handled product, or faulty vapour recovery systems. Be aware of handling operations that may give rise to additional hazards that result from the accumulation of static charges.

### Storage

- Other data : Store separately from oxidising agents.  
Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment to reduce the risk.  
Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.
- Packaging material : Suitable material: Synthetic or paper sacks.

## SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Urea	57-13-6	TWA	10 mg/m <sup>3</sup>	US WEEL

### Biological occupational exposure limits

No biological limit allocated.

### Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods <http://www.cdc.gov/niosh/>

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods <http://www.osha.gov/>

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances <http://www.hse.gov.uk/>

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany  
<http://www.dguv.de/inhalt/index.jsp>

L'Institut National de Recherche et de Sécurité, (INRS), France <http://www.inrs.fr/accueil>

### Engineering measures

- : General Information:
  - Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.
  - Practice good housekeeping.
  - Define procedures for safe handling and maintenance of controls.
  - Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
  - Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
  - Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or for subsequent recycle.

## Personal protective equipment

Respiratory protection : No respiratory protection is ordinarily required under normal conditions of use.

In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.

If air-filtering respirators are suitable for conditions of use: Select a filter suitable for combined particulate/inorganic gases and vapours.

Hand protection

Remarks : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material.

Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Eye protection : Wear dust-tight mono-goggles for use against fine dust particles.

Skin and body protection : Wear chemical resistant gloves/gauntlets and boots. Where risk of splashing, also wear an apron.

## Environmental exposure controls

General advice : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

Information on accidental release measures are to be found in section 6.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: solid
Colour	: yellow
Odour	: Slight hydrocarbon
Odour Threshold	: Data not available
pH	: Data not available
Melting point/range	: 115 - 135 °C / 239 - 275 °F Method: ASTM D127
Initial boiling point and boiling	: <= 445 °C / <= 833 °F range
Method	: ASTM D1160
Flash point	: Method: ASTM D93 (PMCC) Not applicable
Evaporation rate	: Data not available
Flammability (solid, gas)	: Data not available
Upper explosion limit	: no data available
Lower explosion limit	: Data not available
Vapour pressure	: Data not available
Relative vapour density	: Data not available
Density	: 1,300-1,500 kg/m <sup>3</sup> (15°C / 59°F) Method: ASTM D4052
Solubility(ies)	
Water solubility	: negligible
Solubility in other solvents	: Data not available
Partition coefficient: n- octanol/water	: Data not available
Auto-ignition temperature	: ca. 230 °C / 446 °F
Decomposition temperature	: Data not available
Viscosity	: Data not available
Viscosity, kinematic	: Not applicable
Oxidizing properties	: Not applicable
Conductivity	: Low conductivity: < 100 pS/m, The conductivity of this material makes it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semiconductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti- static additives can greatly influence the conductivity of a liquid

## SECTION 10. STABILITY AND REACTIVITY

Reactivity	: The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability	: No hazardous reaction is expected when handled and stored

Possibility of hazardous reactions	: Data not available	according to provisions
Conditions to avoid	: Extremes of temperature and direct sunlight. In certain circumstances product can ignite due to static electricity.	
Incompatible materials	: Strong oxidising agents.	
Hazardous decomposition products	: Hazardous decomposition products are not expected to form during normal storage.	

## SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment	: Information given is based on product testing, and/or similar products, and/or components.
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### Information on likely routes of exposure

Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.

### Acute toxicity

#### Product:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Remarks : Low toxicity: Based on available data, the classification criteria are not met.
Acute inhalation toxicity	: Remarks: Low toxicity if inhaled. Based on available data, the classification criteria are not met.
Acute dermal toxicity	: LD50 (Rat): > 5,000 mg/kg Remarks : Low toxicity: Based on available data, the classification criteria are not met.

### Skin corrosion/irritation

#### Product:

Remarks	: Causes skin irritation.
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### Serious eye damage/eye irritation Product:

Remarks	: Expected to be non-irritating to eyes.
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### Respiratory or skin sensitisation

#### Product:

Test Type	: Respiratory sensitisation
Remarks	: Not expected to be a sensitiser.



Test Type : Skin sensitisation  
Remarks : Not expected to be a skin sensitiser.

### **Germ cell mutagenicity**

**Product:**

Genotoxicity in vivo : Remarks: Not considered a mutagenic hazard.  
Carcinogenicity Product : Remarks: Not expected to be carcinogenic.

### **Reproductive toxicity**

**Product:**

Effects on fertility : Remarks: Not expected to impair fertility.  
Not expected to be a developmental toxicant.

### **STOT - single exposure**

**Product:**

Remarks: Not expected to be a respiratory irritant.

### **STOT - repeated exposure**

**Product:**

Remarks: Not expected to be a hazard.

### **Aspiration toxicity**

**Product:**

Not considered an aspiration hazard.

### **Further information**

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

## **SECTION 12. ECOLOGICAL INFORMATION**

Basis for assessment : Information given is based on product testing, and/or similar products, and/or components.

### **Ecotoxicity**

**Product:**

Toxicity to fish : Remarks: No toxicity at the limit of solubility  
(Acute toxicity)  
Toxicity to crustacean : Remarks: No toxicity at the limit of solubility

(Acute toxicity)	
Toxicity to algae/aquatic plants	: Remarks: No toxicity at the limit of solubility
(Acute toxicity)	
Toxicity to fish	: Remarks: No toxicity at the limit of solubility
(Chronic toxicity)	
Toxicity to crustacean	: Remarks: No toxicity at the limit of solubility
(Chronic toxicity)	
Toxicity to microorganisms	: Remarks: No toxicity at the limit of solubility
(Acute toxicity)	

### **Persistence and degradability**

**Product:**

Biodegradability : Remarks: Not applicable

### **Bioaccumulative potential**

**Product:**

Bioaccumulation : Remarks: Does not have the potential to bioaccumulate significantly.

### **Mobility in soil**

**Product:**

Mobility : Remarks: Adsorbs to soil and has low mobility.  
Sinks in water

Other adverse effects  
No data available

## **SECTION 13. DISPOSAL CONSIDERATIONS**

### **Disposal methods**

- |                        |   |
|------------------------|---|
| Waste from residues    | : Recover or recycle if possible.<br>It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.<br>Do not dispose into the environment, in drains or in water courses |
| Contaminated packaging | : Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Do not pollute the soil, water or environment with the waste container.  |

## SECTION 14. TRANSPORT INFORMATION

### National Regulations

#### TDG

Not regulated as a dangerous good

### International Regulations

#### IATA-DGR

Not regulated as a dangerous good

#### IMDG-Code

Not regulated as a dangerous good

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution category	: Not applicable
Ship type	: Not applicable
Product name	: Not applicable
Special precautions	: Not applicable

### Special precautions for user

Remarks : Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

## SECTION 15. REGULATORY INFORMATION

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

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

### The components of this product are reported in the following inventories:

DSL : All components listed.

## SECTION 16. OTHER INFORMATION

### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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