

# SAFETY DATA SHEET



SULPHUR (SOLID)

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : SULPHUR (SOLID)

**EC number** : Not available.

**REACH Registration number**

**Registration number**

01-2119487295-27-0023  
01-2119487295-27-0024  
01-2119487295-27-0026  
01-2119487295-27-0027  
01-2119487295-27-0028  
01-2119487295-27-0029

**CAS number** : Not available.

**Product description** : sulfur

**Other means of identification** : SULFUR, SOLID

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

**Intended Use** : Chemical feedstock, Raw material

#### Identified uses

Use in agrochemicals - Consumer  
Distribution of substance  
Use in agrochemicals - Professional  
Manufacture and use of slurry explosives  
Formulation and (re)packing of substances and mixtures  
Manufacture of substance  
Use in road and construction products  
Use in rubber production and processing  
Use as a fuel - Industrial  
Use as an intermediate  
Use in binder and release agents - Industrial  
Use in binder and release agents - Professional

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

**Supplier** : ExxonMobil Petroleum & Chemical BV  
POLDERDIJKWEG  
Antwerpen B-2030 Belgium

**Supplier General Contact** : +32 3 790 3111

**e-mail address of person responsible for this SDS** : SDS-DS@exxonmobil.com

**SDS Internet Address** : www.sds.exxonmobil.com

### 1.4 Emergency telephone number

**National advisory body/  
Poison Centre** : (+32)70 245 245

**24 Hour Emergency  
Telephone** : +32 2 808 32 37 / +1-703-527-3887 (CHEMTREC)

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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mono-constituent substance

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Skin Irrit. 2, H315

Aquatic Acute 1, H400

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** : Warning

**Hazard statements** : H315 - Causes skin irritation.  
H400 - Very toxic to aquatic life.

**Precautionary statements**

**Prevention** : P264 - Wash thoroughly after handling.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves.

**Response** : P302 + P352 - IF ON SKIN: Wash with plenty of water.  
P332 + P313 - If skin irritation occurs: Get medical advice/attention.  
P362 + P364 - Take off contaminated clothing and wash it before reuse.  
P391 - Collect spillage.

**Storage** : Not applicable.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients** : sulfur

**Supplemental label elements** : Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : 3

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** :

PBT	P	B	T	vPvB	vP	vB
No	N/A	N/A	No	N/A	N/A	N/A

**Other hazards which do not result in classification** : May form combustible dust concentrations in air.

**Nota** : This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances : Mono-constituent substance

Product/ingredient name	Identifiers	% by weight	Classification	Specific Conc. Limits, M-factors and ATEs	Type
sulfur	REACH #: 01-2119487295-27 EC: 231-722-6 CAS: 7704-34-9	100	Skin Irrit. 2, H315  <b>See Section 16 for the full text of the H statements declared above.</b>	-	[1]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

#### Type

[1] Constituent

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Continue to rinse for at least 10 minutes. Get medical attention.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness

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## SECTION 4: First aid measures

**Ingestion** : No specific data.

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

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

See toxicological information (Section 11)

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing media** : Do not use water jet.

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

**Specific hazards arising from the chemical** : Explosion: Avoid generating dust; fine dust dispersed in air in sufficient concentration and in the presence of an ignition source is a potential dust explosion hazard. This material is very toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion products** : hydrogen sulphide, sulfur oxides

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Use standard firefighting procedures and consider the hazards of other involved materials. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Assure an extended cooling down period to prevent re-ignition. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## SECTION 6: Accidental release measures

### NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

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

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment. Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (for example, clearing dust surfaces with compressed air). Prevent dust exposure to ignition sources. For example, use non-sparking tools and prohibit smoking, flares, sparks or flames in immediate area. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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## SECTION 6: Accidental release measures

**6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

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

**Small spill** : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Material will sink. Seek advice of a specialist. No immediate action required. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

**6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Static Accumulator** : This material is a static accumulator.

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

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

#### Seveso Directive - Reporting thresholds

##### Danger criteria

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## SECTION 7: Handling and storage

Category	Notification and MAPP threshold	Safety report threshold
E1	100 tonne	200 tonne

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
hydrogen sulphide	<p><b>[Air contaminant - Decomposition product(s)]</b>  <b>Limit values (Belgium, 5/2021).</b>                      TWA: 1.64 ppm 8 hours.                      TWA: 2.3 mg/m<sup>3</sup> 8 hours.                      STEL: 4 ppm 15 minutes.                      STEL: 5.61 mg/m<sup>3</sup> 15 minutes.</p> <p><b>[Air contaminant - Decomposition product(s)]</b>  <b>EU OEL (Europe, 1/2022). Notes: list of indicative occupational exposure limit values</b>                      TWA: 7 mg/m<sup>3</sup> 8 hours.                      TWA: 5 ppm 8 hours.                      STEL: 14 mg/m<sup>3</sup> 15 minutes.                      STEL: 10 ppm 15 minutes.</p> <p><b>[Air contaminant - Decomposition product(s)]</b>  <b>ACGIH TLV (United States, 1/2023).</b>                      TWA: 1 ppm 8 hours.                      STEL: 5 ppm 15 minutes.</p> <p><b>[Air contaminant - Decomposition product(s)]</b>  <b>ExxonMobil (Company).</b>                      STEL: 10 ppm 15 minutes.                      STEL: 14 mg/m<sup>3</sup> 15 minutes.                      TWA: 5 ppm 8 hours.                      TWA: 7 mg/m<sup>3</sup> 8 hours.</p>

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

No DNELs/DMELs available.

#### PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
sulfur	Secondary Poisoning	220 mg / kg (food)	-

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## SECTION 8: Exposure controls/personal protection

### 8.2 Exposure controls

**Appropriate engineering controls** : It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product are designed and maintained to minimize dust generation and accumulation. Ensure that dust-handling systems (such as exhaust ducts, dusts collectors, vessels, and processing equipment) are designed to minimize the potential for dust ignition and prevent explosion propagation. For example, use explosion relief vents, an explosion suppression system or inert equipment internals. Additional examples of proper equipment include using only appropriately classified electrical equipment and powered industrial trucks.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. If operating conditions cause high dust concentrations to be produced, use dust goggles.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): Nitrile, minimum 0.38 mm thickness or comparable protective barrier material  
CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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## SECTION 9: Physical and chemical properties

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	: Solid. [pellet, Pastilles]
Colour	: Pale yellow
Odour	: sulfur
Odour threshold	: Not available.
pH	: Not applicable.
Melting point/freezing point	: 110 to 119°C (230 to 246.2°F)
Boiling point, initial boiling point, and boiling range	: 444.6°C (832.3°F)
Flash point	: Open cup: 188°C (370.4°F) [ASTM D-92]
Evaporation rate	: Not available.
Flammability	: Ignitable
Lower and upper explosion limit	: Not applicable.
Vapour pressure	: Not applicable.
Relative vapour density	: Not applicable.
Relative density	: 2
Density	: 0.00207 g/cm <sup>3</sup> [20°C (68°F)]
Solubility in water	: Negligible
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: 255°C (491°F)
Decomposition temperature	: Not available.
Viscosity	: Not applicable.
<u>Particle characteristics</u>	
Median particle size	: Not available.

### 9.2 Other information

No data available

## SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: High dust concentrations., Heat, sparks, flame, and build up of static electricity., Moisture. Excessive heat.
10.5 Incompatible materials	: Alkalies, Strong oxidisers
10.6 Hazardous decomposition products	: hydrogen sulphide

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## SECTION 11: Toxicological information

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

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
sulfur	LC50 Inhalation Dusts and mists	Rat	>5000 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-

#### Conclusion/Summary

- Inhalation** : Minimally Toxic. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 403
- Dermal** : Minimally Toxic. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 402
- Oral** : Minimally Toxic. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 401

#### Acute toxicity estimates

N/A

#### Irritation/Corrosion

##### Conclusion/Summary

- Skin** : Irritating to the skin. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 404
- Eyes** : May cause mild, short-lasting discomfort to eyes. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 405
- Respiratory** : Negligible hazard at ambient/normal handling temperatures. No end point data for material. Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.

#### Sensitisation

##### Conclusion/Summary

- Skin** : Not expected to be a skin sensitizer. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 406
- Respiratory** : Not expected to be a respiratory sensitizer. No end point data for material.

#### Mutagenicity

- Conclusion/Summary** : Not expected to be a germ cell mutagen. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 471 473 474

#### Carcinogenicity

- Conclusion/Summary** : Not expected to cause cancer. No end point data for material.

#### Reproductive toxicity

- Conclusion/Summary** : Not expected to be a reproductive toxicant. No end point data for material.

#### Specific target organ toxicity (single exposure)

- Conclusion/Summary** : Not expected to cause organ damage from a single exposure. No end point data for material.

#### Specific target organ toxicity (repeated exposure)

- Conclusion/Summary** : Not expected to cause organ damage from prolonged or repeated exposure. Data available. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 407 408 410

#### Aspiration hazard

- Conclusion/Summary** : Not expected to be an aspiration hazard. Based on physico-chemical properties of the material. Data available.

**Information on likely routes of exposure** : Not available.

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## SECTION 11: Toxicological information

### 11.2 Information on other hazards

#### 11.2.1 Endocrine disrupting properties

No known endocrine disrupting properties that affect human health

## Section 12. Ecological information

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

### 12.1 Toxicity

Product/ingredient name	Duration	Species	Result
sulfur	48 hours	daphnia - <i>Daphnia magna</i>	Acute EC0 5 ppb data for similar materials
	72 hours	Algae - <i>Pseudokirchneriella subcapitata</i>	Acute EC50 >5 ppb data for similar materials
	96 hours	Fish - <i>Oncorhynchus mykiss</i>	Acute LC0 5 ppb data for similar materials
	21 days	daphnia - <i>Daphnia magna</i>	Chronic NOEC 2.5 ppb data for similar materials

#### Conclusion/Summary

**Acute toxicity** : Very toxic to aquatic life.

**Chronic toxicity** : Not expected to demonstrate chronic toxicity to aquatic organisms

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Qualifier	Media
sulfur	Ready Biodegradability	<60 % - 28 days	data for similar materials	water

### 12.3 Bioaccumulative potential

Not determined.

### 12.4 Mobility in soil

**Mobility** : Material -- Low water solubility, expected to sink and migrate into the sediment. Expected to partition to sediment and wastewater solids.

### 12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
sulfur	No	N/A	N/A	No	N/A	N/A	N/A

### 12.6 Endocrine disrupting properties

No known endocrine disrupting properties that affect the environment

### 12.7 Other adverse effects

**Other adverse effects** : No known significant effects or critical hazards.

**Nota** : Not toxic to aquatic organisms at maximum water solubility.

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## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

#### European waste catalogue (EWC)

Waste code	Waste designation
05 07 02	wastes containing sulphur

NOTE: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. **DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.**

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
<b>14.1 UN number or ID number</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>14.2 UN proper shipping name</b>	-	-	-	-
<b>14.3 Transport hazard class(es)</b>	-	-	-	-
<b>14.4 Packing group</b>	-	-	-	-
<b>14.5 Environmental hazards</b>	No.	No.	No.	No.

#### Additional information

**IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

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## SECTION 14: Transport information

**14.6 Special precautions for user** : **Transport within user's premises**: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Maritime transport in bulk according to IMO instruments** : Not applicable.

## SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**EU Regulation (EC) No. 1907/2006 (REACH)**

**Annex XIV - List of substances subject to authorisation**

**Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : 3

**Other EU regulations**

**Explosive precursors** : Not applicable.

**Seveso Directive**

This product is controlled under the Seveso Directive.

**Danger criteria**

Category
E1

**National regulations**

**Inventory list**

<b>Australia inventory (AIC)</b>	: All components are listed or exempted.
<b>Canada inventory (DSL-NDSL)</b>	: All components are listed or exempted.
<b>China inventory (IECSC)</b>	: All components are listed or exempted.
<b>Japan inventory (CSCL)</b>	: All components are listed or exempted.
<b>Japan inventory (Industrial Safety and Health Act)</b>	: All components are listed or exempted.
<b>New Zealand Inventory of Chemicals (NZIoC)</b>	: All components are listed or exempted.
<b>Philippines inventory (PICCS)</b>	: All components are listed or exempted.
<b>Korea inventory (KECI)</b>	: All components are listed or exempted.
<b>Taiwan Chemical Substances Inventory (TCSI)</b>	: All components are listed or exempted.
<b>United States inventory (TSCA 8b)</b>	: All components are active or exempted.

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments are still required.

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## SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

### Abbreviations and acronyms

: ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
N/A = Not available  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number  
SGG = Segregation Group  
vPvB = Very Persistent and Very Bioaccumulative

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Irrit. 2, H315 Aquatic Acute 1, H400	Calculation method On basis of test data

### Full text of abbreviated H statements

H315	Causes skin irritation.
H400	Very toxic to aquatic life.

### Full text of classifications [CLP/GHS]

Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2

**Date of issue/ Date of revision** : 24 June 2024

**Date of previous issue** : No previous edition

**Version** : 1

**Product code** : 1150299\_13556569

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## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 1150299\_13556569  
**Product name** : SULPHUR (SOLID)

### Section 1 - Title

**Short title of the exposure scenario** : Distribution of substance

**List of use descriptors** : **Identified use name:** Distribution of substance  
**Process Category:** PROC01, PROC04, PROC08a, PROC09, PROC15  
**Sector of end use:** SU03, SU08, SU09  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC01, ERC02, ERC05, ERC06a, ERC06b, ERC06c, ERC06d

**Environmental contributing scenarios** : **General exposures** - ERC01, ERC02, ERC05, ERC06a, ERC06b, ERC06c, ERC06d

**Health Contributing scenarios** : **General measures applicable to all activities** - PROC01, PROC04, PROC08a, PROC09, PROC15  
**General exposures (closed systems)** - PROC01  
**General exposures (open systems)** - PROC04  
**Laboratory activities** - PROC15  
**Equipment cleaning and maintenance** - PROC08a  
**Small package filling** - PROC09  
**Bulk product storage** - PROC01

**Processes and activities covered by the exposure scenario** : Loading (including marine vessel/barge, rail/road car and IBC loading) and repacking (including drums and small packs) of substance, including its sampling, storage, unloading distribution and associated laboratory activities.

### Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

**Product characteristics** : Not applicable.

**Amounts used** : Not applicable.

**Frequency and duration of use** : Not applicable.

**Environment factors not influenced by risk management** : Not applicable.

**Other conditions affecting environmental exposure** : No exposure assessment presented for the environment.

**Technical conditions and measures at process level (source) to prevent release** : Not applicable.

**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Not applicable.

**Organisational measures to prevent/limit release from site** : Not applicable.

**Conditions and measures related to sewage treatment plant** : Not applicable.

**Conditions and measures related to external treatment of waste for disposal** : Not applicable.

**Conditions and measures related to external recovery of waste** : Not applicable.

#### Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

##### General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Assumes use at not more than 20°C above ambient temperature.

##### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

#### Contributing scenario controlling worker exposure for 3: General exposures (closed systems)

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Assumes use at not more than 20°C above ambient temperature.

##### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

#### Contributing scenario controlling worker exposure for 4: General exposures (open systems)

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Assumes use at not more than 20°C above ambient temperature.

##### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 5: Laboratory activities**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 6: Equipment cleaning and maintenance**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 7: Small package filling**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 8: Bulk product storage**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

## Section 3 - Exposure estimation and reference to its source

<b>Website:</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Environment: 1: General exposures</b>	
<b>Exposure assessment (environment):</b>	: ESVOC SPERC 1.1b.v1
<b>Exposure estimation and reference to its source</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 3: General exposures (closed systems)</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 4: General exposures (open systems)</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 5: Laboratory activities</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 6: Equipment cleaning and maintenance</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 7: Small package filling</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 8: Bulk product storage</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

<b>Environment</b>	: Not applicable.
<b>Health</b>	: Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk management measures are based on qualitative risk characterisation. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Professional

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 1150299\_13556569  
**Product name** : SULPHUR (SOLID)

### Section 1 - Title

**Short title of the exposure scenario** : Use in agrochemicals - Professional

**List of use descriptors** : **Identified use name:** Use in agrochemicals - Professional  
**Process Category:** PROC01, PROC04, PROC08a, PROC08b, PROC11, PROC13  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d

**Environmental contributing scenarios** : **General exposures** - ERC08a, ERC08d

**Health Contributing scenarios** : **General measures applicable to all activities** - PROC01, PROC04, PROC08a, PROC08b, PROC11, PROC13  
**Transfer from/pouring from containers** - PROC08b  
**Spraying or fogging** - PROC11  
**Ad hoc manual application via trigger sprays, dipping, etc.** - PROC13  
**Equipment cleaning and maintenance** - PROC08a  
**General exposures (closed systems)** - PROC01  
**General exposures (open systems)** - PROC04

**Processes and activities covered by the exposure scenario** : Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging; including equipment clean-downs and disposal.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 1: General exposures

**Product characteristics** : Not applicable.  
**Amounts used** : Not applicable.  
**Frequency and duration of use** : Not applicable.  
**Environment factors not influenced by risk management** : Not applicable.  
**Other conditions affecting environmental exposure** : No exposure assessment presented for the environment.  
**Technical conditions and measures at process level (source) to prevent release** : Not applicable.  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Not applicable.  
**Organisational measures to prevent/limit release from site** : Not applicable.  
**Conditions and measures related to sewage treatment plant** : Not applicable.

**Date of issue/Date of revision** : 12/13/2021

**Conditions and measures related to external treatment of waste for disposal** : Not applicable.

**Conditions and measures related to external recovery of waste** : Not applicable.

### Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

#### General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours (unless stated differently)

**Other conditions affecting workers exposure** : Assumes use at not more than 20°C above ambient temperature.

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 3: Transfer from/pouring from containers

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours (unless stated differently)

**Other conditions affecting workers exposure** : Assumes use at not more than 20°C above ambient temperature.

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 4: Spraying or fogging

Manual application

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours (unless stated differently)

**Other conditions affecting workers exposure** : Assumes use at not more than 20°C above ambient temperature.

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 5: Ad hoc manual application via trigger sprays, dipping, etc.**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours (unless stated differently)
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 6: Equipment cleaning and maintenance**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours (unless stated differently)
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 7: General exposures (closed systems)**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours (unless stated differently)
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 8: General exposures (open systems)**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours (unless stated differently)
<b>Other conditions affecting workers exposure</b>	: Assumes use at not more than 20°C above ambient temperature.
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

### Section 3 - Exposure estimation and reference to its source

<b>Website:</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Environment: 1: General exposures</b>	
<b>Exposure assessment (environment):</b>	: ESVOC SPERC 8.11b.v1
<b>Exposure estimation and reference to its source</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 3: Transfer from/pouring from containers</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 4: Spraying or fogging</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 5: Ad hoc manual application via trigger sprays, dipping, etc.</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 6: Equipment cleaning and maintenance</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 7: General exposures (closed systems)</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 8: General exposures (open systems)</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

### Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

<b>Environment</b>	: Not applicable.
<b>Health</b>	: Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk management measures are based on qualitative risk characterisation. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Professional

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 1150299\_13556569  
**Product name** : SULPHUR (SOLID)

### Section 1 - Title

**Short title of the exposure scenario** : Manufacture and use of slurry explosives  
**List of use descriptors** : **Identified use name:** Manufacture and use of slurry explosives  
**Process Category:** PROC01, PROC03, PROC05, PROC08a, PROC08b  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08e  
**Environmental contributing scenarios** : **General exposures** - ERC08e  
**Health Contributing scenarios** : **General measures applicable to all activities** - PROC01, PROC03, PROC05, PROC08a, PROC08b  
**Bulk transfers** - PROC08b  
**General exposures (closed systems)** - PROC01, PROC03  
**Mixing operations (open systems)** - PROC05  
**Equipment cleaning and maintenance** - PROC08a

**Processes and activities covered by the exposure scenario** : Covers exposures arising from the manufacture and use of slurry explosives (including materials transfer, mixing and charging) and equipment cleaning.

### Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

**Product characteristics** : Not applicable.  
**Amounts used** : Not applicable.  
**Frequency and duration of use** : Not applicable.  
**Environment factors not influenced by risk management** : Not applicable.  
**Other conditions affecting environmental exposure** : No exposure assessment presented for the environment.  
**Technical conditions and measures at process level (source) to prevent release** : Not applicable.  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Not applicable.  
**Organisational measures to prevent/limit release from site** : Not applicable.  
**Conditions and measures related to sewage treatment plant** : Not applicable.

**Conditions and measures related to external treatment of waste for disposal** : Not applicable.

**Conditions and measures related to external recovery of waste** : Not applicable.

### Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

#### General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours (unless stated differently)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 3: Bulk transfers

Dedicated facility

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours (unless stated differently)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 4: General exposures (closed systems)

Batch process/ With sample collection

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours (unless stated differently)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 5: Mixing operations (open systems)

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours (unless stated differently)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 6: Equipment cleaning and maintenance**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours (unless stated differently)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Section 3 - Exposure estimation and reference to its source**

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1: General exposures**

<b>Exposure assessment (environment):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 3: Bulk transfers**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 4: General exposures (closed systems)**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 5: Mixing operations (open systems)**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 6: Equipment cleaning and maintenance**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

<b>Environment</b>	: Not applicable.
<b>Health</b>	: Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk management measures are based on qualitative risk characterisation. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 1150299\_13556569  
**Product name** : SULPHUR (SOLID)

### Section 1 - Title

**Short title of the exposure scenario** : Formulation and (re)packing of substances and mixtures

**List of use descriptors** : **Identified use name:** Formulation and (re)packing of substances and mixtures  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15  
**Sector of end use:** SU03, SU10  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC02

**Environmental contributing scenarios** : **General exposures - ERC02**

**Health Contributing scenarios** : **General measures applicable to all activities - PROC01, PROC02, PROC03, PROC04, PROC05, PROC08a, PROC08b, PROC09, PROC14, PROC15**  
**General exposures (closed systems) - PROC01, PROC02, PROC03**  
**General exposures (open systems) - PROC04**  
**Process sampling - PROC03**  
**Laboratory activities - PROC15**  
**Bulk transfers - PROC08b**  
**Mixing operations (open systems) - PROC05**  
**Production of preparation or articles by tableting, compression, extrusion or pelletisation - PROC14**  
**Drum and small package filling - PROC09**  
**Equipment cleaning and maintenance - PROC08a**  
**Storage - PROC01, PROC02**

**Processes and activities covered by the exposure scenario** : Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tableting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 1: General exposures

**Product characteristics** : Not applicable.  
**Amounts used** : Not applicable.  
**Frequency and duration of use** : Not applicable.  
**Environment factors not influenced by risk management** : Not applicable.  
**Other conditions affecting environmental exposure** : No exposure assessment presented for the environment.  
**Technical conditions and measures at process level (source) to prevent release** : Not applicable.

**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Not applicable.

**Organisational measures to prevent/limit release from site** : Not applicable.

**Conditions and measures related to sewage treatment plant** : Not applicable.

**Conditions and measures related to external treatment of waste for disposal** : Not applicable.

**Conditions and measures related to external recovery of waste** : Not applicable.

### Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

#### General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 3: General exposures (closed systems)

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 4: General exposures (open systems)

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

**Conditions and measures related to personal protection, hygiene and health evaluation**

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 5: Process sampling**

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

**Conditions and measures related to personal protection, hygiene and health evaluation**

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 6: Laboratory activities**

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

**Conditions and measures related to personal protection, hygiene and health evaluation**

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 7: Bulk transfers**

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

**Conditions and measures related to personal protection, hygiene and health evaluation**

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 8: Mixing operations (open systems)**

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

**Conditions and measures related to personal protection, hygiene and health evaluation**

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 9: Production of preparation or articles by tableting, compression, extrusion or pelletisation**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 10: Drum and small package filling**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 11: Equipment cleaning and maintenance**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 12: Storage**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

## Section 3 - Exposure estimation and reference to its source

<b>Website:</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Environment: 1: General exposures</b>	
<b>Exposure assessment (environment):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 3: General exposures (closed systems)</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 4: General exposures (open systems)</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 5: Process sampling</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 6: Laboratory activities</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 7: Bulk transfers</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 8: Mixing operations (open systems)</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 9: Production of preparation or articles by tableting, compression, extrusion or pelletisation</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 10: Drum and small package filling**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 11: Equipment cleaning and maintenance**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 12: Storage**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

**Environment** : Not applicable.

**Health** : Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.  
Risk management measures are based on qualitative risk characterisation.  
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 1150299\_13556569  
**Product name** : SULPHUR (SOLID)

### Section 1 - Title

**Short title of the exposure scenario** : Manufacture of substance

**List of use descriptors** : **Identified use name:** Manufacture of substance  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15  
**Sector of end use:** SU03, SU08, SU09, SU10  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC01, ERC04

**Environmental contributing scenarios** : **General exposures** - ERC01, ERC04

**Health Contributing scenarios** : **General measures applicable to all activities** - PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15  
**General exposures (closed systems)** - PROC01, PROC02, PROC03  
**General exposures (open systems)** - PROC04  
**Process sampling** - PROC08b  
**Laboratory activities** - PROC15  
**Bulk transfers** - PROC08b  
**Equipment cleaning and maintenance** - PROC08a  
**Bulk product storage** - PROC01, PROC02

**Processes and activities covered by the exposure scenario** : Manufacture of the substance or use as an intermediate, process chemical or extracting agent. Includes recycling/ recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

### Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

**Product characteristics** : Not applicable.

**Amounts used** : Not applicable.

**Frequency and duration of use** : Not applicable.

**Environment factors not influenced by risk management** : Not applicable.

**Other conditions affecting environmental exposure** : No exposure assessment presented for the environment.

**Technical conditions and measures at process level (source) to prevent release** : Not applicable.

**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Not applicable.

**Organisational measures to prevent/limit release from site** : Not applicable.

**Conditions and measures related to sewage treatment plant** : Not applicable.

**Conditions and measures related to external treatment of waste for disposal** : Not applicable.

**Suitable recovery operations** : Not applicable.

#### Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

##### General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

##### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

#### Contributing scenario controlling worker exposure for 3: General exposures (closed systems)

Batch process/ With sample collection

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

##### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

#### Contributing scenario controlling worker exposure for 4: General exposures (open systems)

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

##### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 5: Process sampling**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 6: Laboratory activities**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 7: Bulk transfers**

Open systems/ Dedicated facility

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 8: Equipment cleaning and maintenance**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 9: Bulk product storage**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Section 3 - Exposure estimation and reference to its source**

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1: General exposures**

<b>Exposure assessment (environment):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: ESVOC SPERC 1.1b.v1

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 3: General exposures (closed systems)**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 4: General exposures (open systems)**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 5: Process sampling**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 6: Laboratory activities**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 7: Bulk transfers**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 8: Equipment cleaning and maintenance**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 9: Bulk product storage**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

**Environment** : Not applicable.

**Health** : Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.  
Risk management measures are based on qualitative risk characterisation.  
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Professional

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 1150299\_13556569  
**Product name** : SULPHUR (SOLID)

### Section 1 - Title

**Short title of the exposure scenario** : Use in road and construction products

**List of use descriptors** : **Identified use name:** Use in road and construction products  
**Process Category:** PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08d, ERC08f

**Environmental contributing scenarios** : **General exposures** - ERC08d, ERC08f

**Health Contributing scenarios** : **General measures applicable to all activities** - PROC08a, PROC08b, PROC09, PROC10, PROC11, PROC13  
**Small package filling** - PROC09  
**Roller application or brushing** - PROC10  
**Spraying or fogging** - PROC11  
**Dipping, immersion and pouring** - PROC13  
**Equipment cleaning and maintenance** - PROC08a  
**Bulk transfers** - PROC08b

**Processes and activities covered by the exposure scenario** : Bulk loading (including marine vessel/barge, rail/road car and IBC loading)

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 1: General exposures

**Product characteristics** : Not applicable.  
**Amounts used** : Not applicable.  
**Frequency and duration of use** : Not applicable.  
**Environment factors not influenced by risk management** : Not applicable.  
**Other conditions affecting environmental exposure** : No exposure assessment presented for the environment.  
**Technical conditions and measures at process level (source) to prevent release** : Not applicable.  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Not applicable.  
**Organisational measures to prevent/limit release from site** : Not applicable.  
**Conditions and measures related to sewage treatment plant** : Not applicable.

**Date of issue/Date of revision** : 12/10/2021

**Conditions and measures related to external treatment of waste for disposal** : Not applicable.

**Conditions and measures related to external recovery of waste** : Not applicable.

### Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

#### General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 3: Small package filling

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 4: Roller application or brushing

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 5: Spraying or fogging**

Manual application

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 6: Dipping, immersion and pouring**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 7: Equipment cleaning and maintenance**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 8: Bulk transfers**

Dedicated facility

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

## Section 3 - Exposure estimation and reference to its source

<b>Website:</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Environment: 1: General exposures</b>	
<b>Exposure assessment (environment):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: ESVOC SPERC 8.15.v1
<b>Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 3: Small package filling</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 4: Roller application or brushing</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 5: Spraying or fogging</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 6: Dipping, immersion and pouring</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 7: Equipment cleaning and maintenance</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.
<b>Exposure estimation and reference to its source - Workers: 8: Bulk transfers</b>	
<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

## Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES

<b>Environment</b>	: Not applicable.
<b>Health</b>	: Available hazard data do not enable the derivation of a DNEL for dermal irritant effects. Risk management measures are based on qualitative risk characterisation. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 1150299\_13556569  
**Product name** : SULPHUR (SOLID)

### Section 1 - Title

**Short title of the exposure scenario** : Use in rubber production and processing

**List of use descriptors** : **Identified use name:** Use in rubber production and processing  
**Process Category:** PROC01, PROC05, PROC06, PROC07, PROC08a, PROC08b, PROC09, PROC13, PROC14, PROC15, PROC21  
**Sector of end use:** SU10  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC01, ERC04, ERC06d

**Environmental contributing scenarios** : **General exposures** - ERC01, ERC04, ERC06d

**Health Contributing scenarios** : **General measures applicable to all activities** - PROC01, PROC05, PROC06, PROC07, PROC08a, PROC08b, PROC09, PROC13, PROC14, PROC15, PROC21  
**Small scale weighing** - PROC09  
**Spraying** - PROC07  
**Dipping, immersion and pouring** - PROC13  
**Mixing operations (open systems)** - PROC05  
**Equipment cleaning and maintenance** - PROC08a  
**Calendering (including Banburys)** - PROC06  
**Pressing uncured rubber blanks** - PROC14  
**Finishing operations** - PROC21  
**Laboratory activities** - PROC15  
**Bulk transfers** - PROC08b

**Processes and activities covered by the exposure scenario** : Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.

### Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

**Product characteristics** : Not applicable.  
**Amounts used** : Not applicable.  
**Frequency and duration of use** : Not applicable.  
**Environment factors not influenced by risk management** : Not applicable.  
**Other conditions affecting environmental exposure** : Not applicable.  
**Technical conditions and measures at process level (source) to prevent release** : Not applicable.  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Not applicable.

**Organisational measures to prevent/limit release from site** : Not applicable.

**Conditions and measures related to sewage treatment plant** : Not applicable.

**Conditions and measures related to external treatment of waste for disposal** : Not applicable.

**Conditions and measures related to external recovery of waste** : Not applicable.

### Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

#### General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 3: Small scale weighing

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 4: Spraying

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 5: Dipping, immersion and pouring**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 6: Mixing operations (open systems)**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 7: Equipment cleaning and maintenance**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 8: Calendering (including Banburys)**

Cooling cured articles/ Vulcanisation

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 9: Pressing uncured rubber blanks**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 10: Finishing operations**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 11: Laboratory activities**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 12: Bulk transfers**

Dedicated facility

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Section 3 - Exposure estimation and reference to its source**

<b>Website:</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Environment: 1: General exposures</b>	
<b>Exposure assessment (environment):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities</b>	
<b>Exposure assessment (human):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Workers: 3: Small scale weighing</b>	
<b>Exposure assessment (human):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Workers: 4: Spraying</b>	
<b>Exposure assessment (human):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Workers: 5: Dipping, immersion and pouring</b>	
<b>Exposure assessment (human):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Workers: 6: Mixing operations (open systems)</b>	
<b>Exposure assessment (human):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Workers: 7: Equipment cleaning and maintenance</b>	
<b>Exposure assessment (human):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Workers: 8: Calendering (including Banburys)</b>	
<b>Exposure assessment (human):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.
<b>Exposure estimation and reference to its source - Workers: 9: Pressing uncured rubber blanks</b>	
<b>Exposure assessment (human):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.

**Exposure estimation and reference to its source - Workers: 10: Finishing operations**

**Exposure assessment (human):** : Not applicable.

**Exposure estimation and reference to its source** : Not applicable.

**Exposure estimation and reference to its source - Workers: 11: Laboratory activities**

**Exposure assessment (human):** : Not applicable.

**Exposure estimation and reference to its source** : Not applicable.

**Exposure estimation and reference to its source - Workers: 12: Bulk transfers**

**Exposure assessment (human):** : Not applicable.

**Exposure estimation and reference to its source** : Not applicable.

**Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

**Environment** : Not applicable.

**Health** : Not applicable.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 1150299\_13556569  
**Product name** : SULPHUR (SOLID)

### Section 1 - Title

**Short title of the exposure scenario** : Use as a fuel - Industrial  
**List of use descriptors** : **Identified use name:** Use as a fuel - Industrial  
**Process Category:** PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16  
**Sector of end use:** SU03  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC07  
**Environmental contributing scenarios** : **General exposures** - ERC07  
**Health Contributing scenarios** : **General measures applicable to all activities** - PROC01, PROC02, PROC03, PROC08a, PROC08b, PROC16  
**Bulk transfers** - PROC08b  
**General exposures (closed systems)** - PROC01, PROC02, PROC03  
**Equipment cleaning and maintenance** - PROC08a  
**Storage** - PROC01, PROC02  
**Use as a fuel** - PROC16

**Processes and activities covered by the exposure scenario** : Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 1: General exposures

**Product characteristics** : Not applicable.  
**Amounts used** : Not applicable.  
**Frequency and duration of use** : Not applicable.  
**Environment factors not influenced by risk management** : Not applicable.  
**Other conditions affecting environmental exposure** : No exposure assessment presented for the environment.  
**Technical conditions and measures at process level (source) to prevent release** : Not applicable.  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Not applicable.  
**Organisational measures to prevent/limit release from site** : Not applicable.  
**Conditions and measures related to sewage treatment plant** : Not applicable.

**Conditions and measures related to external treatment of waste for disposal** : Not applicable.

**Conditions and measures related to external recovery of waste** : Not applicable.

### Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

#### General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 3: Bulk transfers

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 4: General exposures (closed systems)

Use in contained batch processes

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 5: Equipment cleaning and maintenance**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 6: Storage**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 7: Use as a fuel**

Closed systems

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Section 3 - Exposure estimation and reference to its source****Website:** : Not applicable.**Exposure estimation and reference to its source - Environment: 1: General exposures**

<b>Exposure assessment (environment):</b>	: Not applicable.
<b>Exposure estimation and reference to its source</b>	: Not applicable.

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 3: Bulk transfers**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 4: General exposures (closed systems)**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 5: Equipment cleaning and maintenance**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 6: Storage**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 7: Use as a fuel**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

**Environment** : Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.  
Risk management measures are based on qualitative risk characterisation.  
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Health** : Not applicable.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 1150299\_13556569  
**Product name** : SULPHUR (SOLID)

### Section 1 - Title

**Short title of the exposure scenario** : Use as an intermediate

**List of use descriptors** : **Identified use name:** Use as an intermediate  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15, PROC22, PROC23  
**Sector of end use:** SU03, SU08, SU09  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC06a

**Environmental contributing scenarios** : **General exposures** - ERC06a

**Health Contributing scenarios** : **General measures applicable to all activities** - PROC01, PROC02, PROC03, PROC04, PROC08a, PROC08b, PROC15, PROC22, PROC23  
**General exposures (closed systems)** - PROC01, PROC02, PROC03  
**General exposures (open systems)** - PROC04  
**Process sampling** - PROC08b  
**Laboratory activities** - PROC15  
**Bulk transfers** - PROC08b  
**Equipment cleaning and maintenance** - PROC08a  
**Storage** - PROC01, PROC02  
**Elevated temperature** - PROC22, PROC23

**Processes and activities covered by the exposure scenario** : Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container).

### Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

**Product characteristics** : Not applicable.  
**Amounts used** : Not applicable.  
**Frequency and duration of use** : Not applicable.  
**Environment factors not influenced by risk management** : Not applicable.  
**Other conditions affecting environmental exposure** : No exposure assessment presented for the environment.  
**Technical conditions and measures at process level (source) to prevent release** : Not applicable.  
**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Not applicable.

**Organisational measures to prevent/limit release from site** : Not applicable.

**Conditions and measures related to sewage treatment plant** : Not applicable.

**Conditions and measures related to external treatment of waste for disposal** : Not applicable.

**Conditions and measures related to external recovery of waste** : Not applicable.

### Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

#### General measures (skin irritants)

Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN 374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimise exposures and to report any skin problems that may develop.

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 3: General exposures (closed systems)

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 4: General exposures (open systems)

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 5: Process sampling**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 6: Laboratory activities**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 7: Bulk transfers**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 8: Equipment cleaning and maintenance**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 9: Storage**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 10: Elevated temperature**

General exposures (closed systems)/ General exposures (open systems)

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Section 3 - Exposure estimation and reference to its source**

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1: General exposures**

<b>Exposure assessment (environment):</b>	: ESVOC SPERC 6.1a.v1
<b>Exposure estimation and reference to its source</b>	: Not applicable.

**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 3: General exposures (closed systems)**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 4: General exposures (open systems)**

<b>Exposure assessment (human):</b>	: The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.
<b>Exposure estimation and reference to its source</b>	: Not available.

**Exposure estimation and reference to its source - Workers: 5: Process sampling**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 6: Laboratory activities**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 7: Bulk transfers**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 8: Equipment cleaning and maintenance**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 9: Storage**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 10: Elevated temperature**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

**Environment** : Not applicable.

**Health** : Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.  
Risk management measures are based on qualitative risk characterisation.  
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Industrial

### Identification of the substance or mixture

**Product definition** : Mono-constituent substance  
**Code** : 1150299\_13556569  
**Product name** : SULPHUR (SOLID)

### Section 1 - Title

**Short title of the exposure scenario** : Use in binder and release agents - Industrial

**List of use descriptors** : **Identified use name:** Use in binder and release agents - Industrial  
**Process Category:** PROC01, PROC02, PROC03, PROC04, PROC06, PROC08b, PROC10, PROC13, PROC14  
**Sector of end use:** SU03  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC04

**Environmental contributing scenarios** : **General exposures** - ERC04

**Health Contributing scenarios** : **General measures applicable to all activities** - PROC01, PROC02, PROC03, PROC04, PROC06, PROC08b, PROC10, PROC13, PROC14  
**General exposures (closed systems)** - PROC01, PROC02, PROC03  
**General exposures (open systems)** - PROC04, PROC06  
**Mixing operations (open systems)** - PROC06  
**Roller, spreader, flow application** - PROC10  
**Dipping, immersion and pouring** - PROC13  
**Article formation in mould** - PROC14  
**Bulk transfers** - PROC08b

**Processes and activities covered by the exposure scenario** : Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste.

### Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**

**Product characteristics** : Not applicable.

**Amounts used** : Not applicable.

**Frequency and duration of use** : Not applicable.

**Environment factors not influenced by risk management** : Not applicable.

**Other conditions affecting environmental exposure** : No exposure assessment presented for the environment.

**Technical conditions and measures at process level (source) to prevent release** : Not applicable.

**Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil** : Not applicable.

**Organisational measures to prevent/limit release from site** : Not applicable.

**Conditions and measures related to sewage treatment plant** : Not applicable.

**Conditions and measures related to external treatment of waste for disposal** : Not applicable.

**Conditions and measures related to external recovery of waste** : Not applicable.

### Contributing scenario controlling worker exposure for 2: General measures applicable to all activities

#### General measures (skin irritants):

Avoid skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested EN374) if hand contact with substance likely. Clean up contamination/ spills as soon as they occur. Wash off any skin contamination immediately. Provide basic employee training to prevent/minimize exposures and to report any skin problems that may develop.

Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 3: General exposures (closed systems)

With sample collection, Batch process

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

### Contributing scenario controlling worker exposure for 4: General exposures (open systems)

**Product characteristics** : Liquid

**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.

**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours

**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)

#### Conditions and measures related to personal protection, hygiene and health evaluation

**Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 5: Mixing operations (open systems)**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 6: Roller, spreader, flow application**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 7: Dipping, immersion and pouring**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 8: Article formation in mould**

<b>Product characteristics</b>	: Liquid
<b>Concentration of substance in mixture or article</b>	: Covers percentage substance in the product up to 100 %.
<b>Frequency and duration of use/exposure</b>	: Covers daily exposures up to 8 hours
<b>Other conditions affecting workers exposure</b>	: Operation is carried out at elevated temperature (> 20°C above ambient temperature)
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Advice on general occupational hygiene</b>	: Assumes a good basic standard of occupational hygiene is implemented

**Contributing scenario controlling worker exposure for 9: Bulk transfers**

Dedicated facility

**Product characteristics** : Liquid**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)**Conditions and measures related to personal protection, hygiene and health evaluation****Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented**Section 3 - Exposure estimation and reference to its source****Website:** : Not applicable.**Exposure estimation and reference to its source - Environment: 1: General exposures****Exposure assessment (environment):** : Not applicable.**Exposure estimation and reference to its source** : Not applicable.**Exposure estimation and reference to its source - Workers: 2: General measures applicable to all activities****Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.**Exposure estimation and reference to its source** : Not available.**Exposure estimation and reference to its source - Workers: 3: General exposures (closed systems)****Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.**Exposure estimation and reference to its source** : Not available.**Exposure estimation and reference to its source - Workers: 4: General exposures (open systems)****Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.**Exposure estimation and reference to its source** : Not available.**Exposure estimation and reference to its source - Workers: 5: Mixing operations (open systems)****Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.**Exposure estimation and reference to its source** : Not available.**Exposure estimation and reference to its source - Workers: 6: Roller, spreader, flow application****Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.**Exposure estimation and reference to its source** : Not available.**Exposure estimation and reference to its source - Workers: 7: Dipping, immersion and pouring****Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 8: Article formation in mould**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Exposure estimation and reference to its source - Workers: 9: Bulk transfers**

**Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.

**Exposure estimation and reference to its source** : Not available.

**Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

**Environment** : Not applicable.

**Health** : Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.  
Risk management measures are based on qualitative risk characterisation.  
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Professional

### Identification of the substance or mixture

Product definition : Mono-constituent substance  
 Code : 1150299\_13556569  
 Product name : SULPHUR (SOLID)

### Section 1 - Title

Short title of the exposure scenario : Use in binder and release agents - Professional  
 List of use descriptors : **Identified use name:** Use in binder and release agents - Professional  
**Process Category:** PROC01, PROC02, PROC03, PROC08a  
**Sector of end use:** SU22  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a  
 Environmental contributing scenarios : **General exposures** - ERC08a  
 Health Contributing scenarios : **General exposures (closed systems)** - PROC01, PROC02, PROC03  
**Equipment cleaning and maintenance** - PROC08a

Processes and activities covered by the exposure scenario : Covers the use as binders and release agents including material transfers, mixing, application by spraying, brushing, and handling of waste.

### Section 2 - Exposure controls

**Contributing scenario controlling environmental exposure for 1: General exposures**  
 Product characteristics : Not applicable.  
 Amounts used : Not applicable.  
 Frequency and duration of use : Not applicable.  
 Environment factors not influenced by risk management : Not applicable.  
 Other conditions affecting environmental exposure : No exposure assessment presented for the environment.  
 Technical conditions and measures at process level (source) to prevent release : Not applicable.  
 Technical on-site conditions and measures to reduce or limit discharges, air emissions and releases to soil : Not applicable.  
 Organisational measures to prevent/limit release from site : Not applicable.  
 Conditions and measures related to sewage treatment plant : Not applicable.  
 Conditions and measures related to external recovery of waste : Not applicable.

**Contributing scenario controlling worker exposure for 2: General exposures (closed systems)**

Batch process/ With sample collection

**Product characteristics** : Liquid**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)**Conditions and measures related to personal protection, hygiene and health evaluation****Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented**Contributing scenario controlling worker exposure for 3: Equipment cleaning and maintenance****Product characteristics** : Liquid**Concentration of substance in mixture or article** : Covers percentage substance in the product up to 100 %.**Frequency and duration of use/exposure** : Covers daily exposures up to 8 hours**Other conditions affecting workers exposure** : Operation is carried out at elevated temperature (> 20°C above ambient temperature)**Conditions and measures related to personal protection, hygiene and health evaluation****Advice on general occupational hygiene** : Assumes a good basic standard of occupational hygiene is implemented**Section 3 - Exposure estimation and reference to its source****Website:** : Not applicable.**Exposure estimation and reference to its source - Environment: 1: General exposures****Exposure assessment (environment):** : Not applicable.**Exposure estimation and reference to its source** : Not applicable.**Exposure estimation and reference to its source - Workers: 2: General exposures (closed systems)****Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.**Exposure estimation and reference to its source** : Not available.**Exposure estimation and reference to its source - Workers: 3: Equipment cleaning and maintenance****Exposure assessment (human):** : The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated.**Exposure estimation and reference to its source** : Not available.**Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES****Environment** : Not applicable.**Health** : Available hazard data do not enable the derivation of a DNEL for dermal irritant effects.  
Risk management measures are based on qualitative risk characterisation.  
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.**Additional good practice advice beyond the REACH CSA****Date of issue/Date of revision** : 12/10/2021

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**Environment** : Not available.

**Health** : Not available.

## Annex to the extended Safety Data Sheet (eSDS)

Consumer

### Identification of the substance or mixture

Product definition : Mono-constituent substance  
 Code : 1150299\_13556569  
 Product name : SULPHUR (SOLID)

### Section 1 - Title

Short title of the exposure scenario : Use in agrochemicals - Consumer  
 List of use descriptors : **Identified use name:** Use in agrochemicals - Consumer  
**Sector of end use:** SU21  
**Subsequent service life relevant for that use:** No.  
**Environmental Release Category:** ERC08a, ERC08d  
**Market sector by type of chemical product:** PC12, PC27  
 Environmental contributing scenarios : **General exposures** - ERC08a, ERC08d  
 Health Contributing scenarios : **Fertilizers** - PC12

Processes and activities covered by the exposure scenario : Covers the consumer use in agrochemicals in liquid and solid forms.

### Section 2 - Exposure controls

#### Contributing scenario controlling environmental exposure for 1: General exposures

Product characteristics : Not applicable.  
 Amounts used : Not applicable.  
 Frequency and duration of use : Not applicable.  
 Environment factors not influenced by risk management : Not applicable.  
 Other conditions affecting environmental exposure : No exposure assessment presented for the environment.  
 Conditions and measures related to sewage treatment plant : Not applicable.  
 Conditions and measures related to external treatment of waste for disposal : Not applicable.  
 Conditions and measures related to external recovery of waste : Not applicable.

#### Contributing scenario controlling consumer exposure for 2: Fertilizers

Lawn and garden preparations  
 Product characteristics : Liquid  
 Concentration of substance in mixture or article : Covers concentrations up to 90 %

<b>Amounts used</b>	: Covers skin contact area up to (cm <sup>2</sup> ): 857.5 cm <sup>2</sup> For each use event, covers use amounts up to (g): 2 500 g Covers use in room size of (m <sup>3</sup> ): 20 m <sup>3</sup> For each use event, assumes swallowed amount of (g): 0.3 g
<b>Frequency and duration of use/exposure</b>	: Covers use up to 1 days per year Covers use up to 1 times per day Covers daily exposures up to 8 hours
<b>Other given operational conditions affecting consumers exposure</b>	: Covers use at ambient temperatures. Covers outdoor use. Covers use under typical household ventilation. No exposure assessment presented for human health.
<b>Conditions and measures related to personal protection and hygiene</b>	
<b>Advice on general occupational hygiene</b>	: Not applicable.

**Section 3 - Exposure estimation and reference to its source**

**Website:** : Not applicable.

**Exposure estimation and reference to its source - Environment: 1: General exposures**

**Exposure assessment (environment):** : ESVOC SPERC 8.11b.v1

**Exposure estimation and reference to its source** : Not applicable.

**Exposure estimation and reference to its source - Consumers: 2: Fertilizers**

**Exposure assessment (human):** : ECETOC TRA, consumer

**Exposure estimation and reference to its source** : Not applicable.

**Section 4 - Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

**Environment** : Not applicable.

**Health** : Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

**Additional good practice advice beyond the REACH CSA**

**Environment** : Not available.

**Health** : Not available.

SULPHUR (SOLID)