

**Sulfur, prilled**

Version 2.3

Revision Date 2011-08-30

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name : Sulfur, prilled

Use : Intermediate

Company : Qatar Chemical Company LTD (QChem)
1st Floor Salam Tower Al Corniche
P.O. Box 24646
Doha, QatarMSDS Requests: (+974) 4484-7110
Technical Information: (+974) 4476-7676
Responsible Party: Product Safety Group
Email: MSDSInquiry@qchem.com.qa**Emergency telephone:****Health:**

866.442.9628 (North America)

1.832.813.4984 (International)

Transport:

North America: CHEMTREC 800.424.9300 or 703.527.3887

Asia: +800 CHEMCALL (+800 2436 2255) China: 0532.8388.9090

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Chemcare Asia: Tel: +65 6848 9048 - Mob: +65 8382 9188 - Fax: +65 6848

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Responsible Department : Product Safety and Toxicology Group

E-mail address : MSDS@CPChem.com

Website : www.CPChem.com

2. HAZARDS IDENTIFICATION**Emergency Overview****Physical state:** Solid **Color:** Yellow

OSHA Hazards : Moderate skin irritant

GHS Classification

: Skin irritation, Category 2

GHS-Labeling

Symbol(s) :



Signal Word : Warning

Hazard Statements : H315: Causes skin irritation.

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Precautionary Statements : **Prevention:**
 P264: Wash skin thoroughly after handling.
 P280: Wear protective gloves.
Response:
 P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
 P321: Specific treatment (see supplemental first aid instructions on this label).
 P332 + P313: If skin irritation occurs: Get medical advice/attention.
 P362: Take off contaminated clothing and wash before reuse.

Carcinogenicity:

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Prilled

Molecular formula : S

Index-No. : 016-094-00-1

EINECS-No. : 231-722-6

Component	CAS-No.	Weight %
Sulfur	7704-34-9	100.00

4. FIRST AID MEASURES

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance.

If inhaled : If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact : If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

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5. FIRE-FIGHTING MEASURES

Flash point	:	207 °C (405 °F)
Autoignition temperature	:	232 °C (450 °F)
Unsuitable extinguishing media	:	High volume water jet.
Special protective equipment for fire-fighters	:	Wear self contained breathing apparatus for fire fighting if necessary.
Further information	:	Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Fire and explosion protection	:	Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.
Hazardous decomposition products	:	Sulfur oxides.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	:	Use personal protective equipment. Avoid dust formation. Avoid breathing dust.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up	:	Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Handling**

Advice on safe handling	:	Avoid formation of respirable particles. Do not breathe vapors/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Advice on protection against fire and explosion	:	Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.

Storage

Requirements for storage areas and containers	:	Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

Personal protective equipment

- Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Air-Purifying Respirator for Dusts and Mists / P100. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.
- Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.
- Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place. Wear as appropriate: Flame retardant antistatic protective clothing. Workers should wear antistatic footwear.
- Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties****Appearance**

- Physical state : Solid
Color : Yellow

Safety data

- Flash point : 207 °C (405 °F)
Lower explosion limit : No data available
Upper explosion limit : No data available

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Oxidizing properties	: No
Autoignition temperature	: 232 °C (450 °F)
Molecular formula	: S
Molecular Weight	: 32.06 g/mol
pH	: Not applicable
Pour point	: No data available
Boiling point/boiling range	: 445 °C (833 °F)
Vapor pressure	: Not applicable
Relative density	: 1.96
Density	: 2.1 g/cm ³
Water solubility	: Negligible
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: Not applicable
Relative vapor density	: 8.6 (Air = 1.0)
Evaporation rate	: No data available

10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions

Conditions to avoid	: No data available.
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11. TOXICOLOGICAL INFORMATION**Acute oral toxicity**

Sulfur	: LD50 Oral: > 2,200 mg/kg Species: rat Sex: male and female Method: OECD Test Guideline 401
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Test substance: yes

Acute inhalation toxicity

Sulfur : LC50: > 5.4 mg/l
 Exposure time: 4 HR
 Species: rat
 Sex: male and female
 Method: OECD Test Guideline 403
 Test substance: yes

Acute dermal toxicity

Sulfur : LD50: > 2,000 mg/kg
 Species: rat
 Sex: male and female
 Method: OECD Test Guideline 402
 Test substance: yes

**Sulfur, prilled
Skin irritation**

: Irritating to skin.

May cause skin irritation in susceptible persons.

**Sulfur, prilled
Eye irritation**

: No eye irritation

**Sulfur, prilled
Sensitization**

: Did not cause sensitization on laboratory animals.

Repeated dose toxicity

Sulfur : Species: rat
 Application Route: oral gavage
 Dose: 100, 400, 1000 mg/kg
 Exposure time: 90 days
 NOEL: 1,000 mg/kg
 Method: OCED Guideline 408

**Sulfur, prilled
Aspiration toxicity**

: No aspiration toxicity classification.

**Sulfur, prilled
Further information**

: No data available.

12. ECOLOGICAL INFORMATION**Toxicity to fish**

Sulfur : NOEC: > 5 ug/l
 Exposure time: 96 HR
 Species: Oncorhynchus mykiss (rainbow trout)
 semi-static test Analytical monitoring: yes
 Test substance: yes

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Method: OECD Test Guideline 203
Aquatic toxicity is unlikely due to low solubility.

Elimination information (persistence and degradability)

Biodegradability : Not applicable

Further information on ecology

Additional ecological information : No data available

No data available

13. DISPOSAL CONSIDERATIONS

The information in this MSDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

14. TRANSPORT INFORMATION

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the MSDS and the bill of lading.

US DOT (United States Department of Transportation)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IMO / IMDG (International Maritime Dangerous Goods)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IATA (International Air Transport Association)

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ADR (Agreement on Dangerous Goods by Road (Europe))

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RID (Regulations concerning the International Transport of Dangerous Goods (Europe))

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADN (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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

Additional Notes:

49 CFR 172.101, Special Provision 30 – Sulphur -- “Not Regulated if transported in nonbulk or formed into a shape for example prills, granules, pellets, pastilles or flakes...” IMO/IMDG Regulations: Sulphur is indicated in the IMDG Dangerous Goods List, Vol. 2, Chapter 3.2, special provision 242: "Sulphur is not subject to the provisions of this code when it has been formed into a specific shape (such as prills, granules, pellets, pastilles, or flakes)."

15. REGULATORY INFORMATION**National legislation**

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 Threshold Planning Quantity : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Ingredients : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

US State Regulations

Massachusetts Right To Know : Sulfur 7704-34-9

Pennsylvania Right To Know : Sulfur 7704-34-9

New Jersey Right To Know

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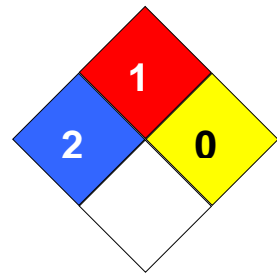
California Prop. 65 Ingredients : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

- Europe REACH : On the inventory, or in compliance with the inventory
- United States of America US.TSCA : On the inventory, or in compliance with the inventory
- Canada DSL : On the inventory, or in compliance with the inventory
- Australia AICS : On the inventory, or in compliance with the inventory
- New Zealand NZIoC : On the inventory, or in compliance with the inventory
- Japan ENCS : On the inventory, or in compliance with the inventory
- Korea KECI : On the inventory, or in compliance with the inventory
- Philippines PICCS : On the inventory, or in compliance with the inventory
- China IECSC : On the inventory, or in compliance with the inventory

16. OTHER INFORMATION

NFPA Classification : Health Hazard: 2
 Fire Hazard: 1
 Reactivity Hazard: 0



Further information

Legacy MSDS Number : QCHEM008

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this MSDS pertains only to the product as shipped.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program

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CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		