

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier:

Trade name: Sulphur Pastilles/Granular
CAS number: 7704-34-9
EC number: 231-722-6
Index number: 016-094-00-1
Registration number: 01-2119487295-27

Relevant identified uses of the substance or mixture and uses advised against:

As an Intermediate; use as release agents or binders; rubber production and processing; use as a fuel; use a monomer; use of substance to formulate chemical product mixtures; uses in coatings; use in cleaning agents; use in metal working fluids/rolling oils; use as a blowing agent, use in polymer production; lubricants; laboratory use; use in mining operations; use in water treatment chemicals; use as a functional fluids; steel and alloys in massive form; intermediate for manufacturing of Sulphuric acid; use in road and construction applications; explosives manufacture & use; use in agrochemicals; use in oil field drilling and production operations, de-icing and anti-icing; use in matches; use in fireworks.

Sector of use:

SU1: Agriculture, forestry, fishery.
SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites.
SU4: Manufacture of food products.
SU6a: Manufacture of wood and wood products.
SU8: Manufacture of bulk, large scale chemicals (including petroleum products).
SU9: Manufacture of fine chemicals.
SU10: Formulation (mixing) of preparations and/or re-packaging (excluding alloys).
SU11: Manufacture of rubber products.
SU14: Manufacture of basic metals, including alloys.
SU15: Manufacture of fabricated metals products, except machinery and equipment.
SU19: Building and construction work.
SU22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen).
SU23: Electricity, steam, gas water supply and sewage treatment.
SU24: Scientific research and development.
SU0: Other: Use as release agent or binders.
SU0: Other: Use as fuel.
SU0: Other: Explosive.

Product category:

PC1: Adhesives, sealants.
PC3: Air care products.
PC4: Anti-freeze and de-icing products.
PC7: Base metals and alloys.

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PC9a: Coatings and paints, thinners, paints removers.
PC9b: Fillers, putties, plasters, modelling clay.
PC9c: Finger paints.
PC11: Explosives.
PC12: Fertilisers.
PC13: Fuel.
PC16: Heat transfer fluids.
PC17: Hydraulic fluids.
PC18: Ink and toners.
PC19: Intermediate.
PC22: Lawn and Garden Preparations, including fertilizers.
PC23: Leather treatment products.
PC24: Lubricants, greases, release products.
PC27: Plant protection products.
PC28: Perfumes, fragrances.
PC31: Polishes and wax blends.
PC32: Polymer preparations and compounds.
PC35: Washing and cleaning products (including solvent based products).
PC36: Water softeners.
PC37: Water treatment chemicals.
PC38: Welding and soldering products, flux products.
PC39: Cosmetics, personal care products.
PC0: Other: Substance is contained within lubricant and grease products.

Article category:

AC1: Vehicles.
AC2: Machinery, mechanical appliances, electrical/electronic articles.
AC10: Rubber articles.

Application of the substance/ the mixture: The product has many industrial, professional and consumer applications.

Uses advised against:

Processes involving the use of incompatible substances – refer to section 10.
Processes involving extreme heat use advised against.
The product is intended exclusively for industrial and professional use.

Company name:

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008:



Skin Irrit. 2 H315 Causes skin irritation.

Label elements:

Labelling according to Regulation (EC) No. 1272/2008:

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms:	GHS07
Signal word:	Warning
Hazard statements:	H315 Causes skin irritation.
Precautionary statements:	P101: If medical advice is needed, have product container or label at hand. P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260: Do not breathe dust/fume/gas/mist/vapours/spray. P280: Wear protective gloves/protective clothing/eye protection/face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P403+P235: Store in a well-ventilated place. Keep cool. P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards:

Results of PBT and vPvB assessment:

PBT:	Not applicable.
vPvB:	Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterisation:

Substances:

CAS No. Description:	7704-34-9 Sulphur
Identification number(s):	
EC number:	231-722-6
Index number:	016-094-00-1

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4. FIRST AID MEASURES

Description of first aid measures:

General information:	No special measures required.
After inhalation:	Supply fresh air, consult doctor in case of complaints.
After skin contact:	Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.
After eye contact:	Check for and remove any contact lenses. Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing:	Wash mouth out with water. Do not induce vomiting; call for medical help immediately. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Most important symptoms and effects, both acute and delayed: No further relevant information available.

Information for the doctor: Treat symptomatically and supportively.
Further treatment in hospital is indicated in every case of ingestion, because absorptive-toxic effects due to delayed formation of Hydrogen Sulphide.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet.

Special hazards arising from the substance or mixture:

Sulphur Dioxide (SO₂).

Under certain fire conditions, traces of other toxic gases cannot be excluded.

During heating or in case of fire poisonous gases are produced.

Sulphur is an easily ignitable solid.

In a powdered form it may form explosive mixtures with air, or in contact with oxidizing materials.

Sulphur burns with a blue flame that may be difficult to see in daylight, and produces toxic Sulphur Dioxide gas.

If dry, it can be charged electrostatically by swirling, pneumatic transport, pouring, etc.

Runoff from fire control may cause pollution.

Advice for fire-fighters:

Protective equipment: Wear fully protective suit.
Wear self-contained respiratory protective device.
Mouth respiratory protective device.

Additional information: Collect contaminated fire-fighting water separately. It must not enter the sewage system.
Cool endangered receptacles with water spray.

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

- Avoid formation of dust.
- Keep ignition sources away-no smoking.
- Ensure adequate ventilation.
- Mount respiratory protective device.

Environmental precautions: Do not allow product to reach sewage system or any water course.

Methods and material for containment and cleaning up:

- Ensure adequate ventilation.
- Pick up mechanically.
- Send for recovery or disposal in suitable receptacles.

Reference to other sections: No dangerous substances are released.
See section 7 for information on safe handling.
See section 8 for information on personal protection equipment.
See section 13 for disposal information.

7. HANDLING AND STORAGE

Precautions for safe handling: Welding and other hot work operations in the work area must only be permitted under supervision. Conduct maintenance and other work on or in storage/reactor/mixing vessels or closed spaces ONLY under strict permit to work conditions.
Ensure good ventilation/exhaustion at the workplace.

Information about fire and explosion protection: Dust can combine with air to form an explosive mixture.

- Use plant, equipment and protective systems intended for use in potentially explosive atmospheres.
- Keep respiratory protective device available.
- Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g. by grounding).
- Areas in which the substance can arise as a dust in such quantities that a dust explosion could occur are to be considered as a risk of explosion.
- Keep away from sources of ignition (e.g. open flames, heat sources and sparks).

Flash point: 218°C

Ignition temperature: 260°C

Temperature class: T3

Conditions for safe storage, including any incompatibilities:

Storage:

Requirements to be met by storerooms and receptacles: Sulphur should be stored in a cool, well ventilated area, away from sources of ignition, physical damage, chlorates, nitrates and other oxidising materials.

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Information about storage in one common storage facility: Store away from oxidising agents.

Further information about storage conditions: Store in cool, dry conditions in well-sealed receptacles.

Specific end use(s): No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Additional information about design of technical facilities: No further data; see item 7.

Control parameters:

Ingredients with limit values that require monitoring at the workplace: Not required.

PNECs: PNEC oral: 0.22 g/kg food

Additional information: The lists valid during the making were used as basis.

Exposure controls:

Personal protective equipment: Select PPE appropriate for the operations taking place taking into account the product properties.

General protective and hygienic measures: Do not breathe dust.

Do not eat, drink, smoke or sniff while working.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Respiratory protection: Use suitable respiratory protective device in case of insufficient ventilation.

Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Protection of hands:



Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material: The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Safety glasses.

Body protection: Protective work clothing.

Body protection must be chosen depending on product properties, activity and possible exposure.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

General information:

Appearance:

Form:	Prills.
Colour:	Light yellow.
Odour:	Sulphurous.
Odour threshold:	Not determined.
pH-value:	Not applicable.
Change in condition:	
Melting point/freezing point:	119°C
Initial boiling point and boiling range:	445°C
Flash point:	168°C
Flammability (solid, gas):	Product is not flammable.
Ignition temperature:	260°C
Decomposition temperature:	Not determined.
Auto-ignition temperature:	Not determined.
Explosive properties:	Product is not explosive. However, formation of explosive air/dust mixtures are possible.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapour pressure:	Not applicable.
Density at 20°C:	1.8-2.06 g/cm ³
Relative density:	Not determined.
Vapour density:	Not applicable.
Evaporation rate:	Not applicable.
Solubility in/ Miscibility with water:	Insoluble.
Partition coefficient: n-octanol/water:	Not determined.
Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
Other information:	No further relevant information available.

10. STABILITY AND REACTIVITY

Reactivity: No further relevant information available.

Chemical stability:

Thermal decomposition/conditions to be avoided: Sulphur is an easily ignitable solid.

Dust explosion possible if in powder or granular form, mixed with air. If dry, it can be charged electrostatically by swirling, pneumatic transport, pouring, etc.

Fire may produce irritating and/or toxic gases.

Possibility of hazardous reactions: Molten sulphur reacts with hydrocarbons to form toxic and flammable gases.

Reacts violently with strong oxidants causing fire and explosion hazard, especially if powdered.

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Risk of explosion in contact with: Alkali metals; strong oxidizing agents; nitrates; bromates; chlorates; chlorites; calcium (heat); calcium hypochlorite; chlorine oxides; diethyl ether (heat); difluorine dioxide; hydrazine nitrate; iodates; iodine (V) oxide (heat); perchlorates; permanganates; magnesium (heat); sodium peroxide; white phosphorus; mercury (II) oxide; friction; soot/nitrates/thallium oxide; zinc powder.

The substance can react dangerously with: Alkali nitrides; antimony trisulphide (rarely); benzene/pyrophoric; lead chromate; lead oxides; boron/heat; bromine fluorides; carbides; calcium phosphide; chlorine trifluoride; chlorine trioxide; chromium trioxide; chromyl chloride; difluoride oxide; alkaline-earth metals (heat); halogens except iodine; heat; iodine pentafluoride; coal; activated coal; lithium silicide; air/molten mass; metals (heat); sodium chlorite; sodium hydride; nitrobenzene (rarely); phosphorus trioxide; red phosphorus; carbon disulphide; selenium; silver oxide; silicon hydride (rarely); nitrogen dioxide; hydrogen/heat.

The formation of explosive dust-air-mixtures is possible.

Conditions to avoid: No further relevant information available.

Incompatible materials: Substances specifically listed in section 10.3 as incompatible.
Strong oxidising agents.

Hazardous decomposition products: Sulphur oxides (SO_x).

On combustion, forms toxic and corrosive gases of sulphur oxides including sulphur dioxide.

Additional information: Dust explosion possible if in powder or granular form, mixed with air. If dry, it can be charged electrostatically by swirling, pneumatic transport, pouring, etc.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Acute toxicity: Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

7704-34-9 Sulphur:

Oral:	LD50	>2000 mg/kg (rat)
Dermal:	LD50	>2000 mg/kg (rabbit)
Inhalative:	LC50/4 h	>5.43 mg/l (rat)

Primary irritant effect:

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

Other information (about experimental toxicology):

ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation and by ingestion.

INHALATIVE RISK: Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

EFFECTS OF SHORT-TERM EXPOSURE: Inhalation of powder of this substance may cause inflammation of the nose and the respiratory tract.

Contact may cause burns to skin and eyes.

Contact with molten substance may cause severe burns to skin and eyes.

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Subacute to chronic toxicity:

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the respiratory tract, resulting in chronic bronchitis.

Additional information: Depending on the degree of exposure, periodic medical examination is indicated.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT- single exposure: Based on available data, the classification criteria are not met.

STOT- repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Toxicity:

Aquatic toxicity:

7704-34-9 Sulphur:

EC50: >100 mg/kg (daphnia)

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: Product is not expected to bioaccumulate.

Mobility in soil: No further relevant information available.

Additional ecological information:

General notes: Generally not hazardous for water.

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Recommendation:

Recommended Hierarchy of Controls: Minimise waste.

Reuse if not contaminated.

Recycle, if possible or safe disposal (if all else fails).

Contact waste processors for recycling information.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Used, degraded or contaminated product may be classified as hazardous waste.

Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

European waste catalogue:

Waste key numbers in accordance with the European Waste Catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

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Uncleaned packaging:

Recommendation:

Do not mix with other waste streams.

Container remains hazardous when empty. Continue to observe all precautions.

Containers, even those that are "empty", may contain residues that can develop flammable vapours upon heating. Do not cut, drill, grind, weld or perform similar operations on or near empty containers.

14. TRANSPORT INFORMATION

UN number:

ADR, ADN, IMDG, IATA: Void.

UN proper shipping name:

ADR, ADN, IMDG, IATA: Void.

Transport hazard class(es):

ADR, ADN, IMDG, IATA:

Class: Void.

Packing group:

ADR, IMDG, IATA: Void.

Environmental hazards: Not applicable.

Special precautions for user: Not applicable.

Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable.

Transport/Additional information: Not dangerous according to the above specifications.

UN "Model Regulation": Void.

15. REGULATORY INFORMATION

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

Directive 2012/18/EU:

Named dangerous substances- ANNEX I: Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

Note:

The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

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16. OTHER INFORMATION

Department issuing SDS: Product safety department.

Abbreviations and acronyms: ADR: Accord Européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road).

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

GHS: Globally Harmonised System of Classification and Labelling of Chemicals.

EINCES: European Inventory of Existing Commercial Chemical Substances.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

PNEC: Predicted No-Effect Concentration (REACH).

LC50: Lethal concentration, 50 percent.

LD50: Lethal dose, 50 percent.

PBT: Persistent, Bioaccumulative and Toxic.

vPvB: very Persistent and very Bioaccumulative.

Skin Irrit.2: Skin corrosion/irritation- Category 2.

Legal disclaimer: The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.