



SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product identifier used on the label:

Product Name: Westco Rubbermakers sulfur and superfine sulfur

Other means of identification:

Product Description: Sulfur is a vulcanizing agent used to promote cross-linking in natural rubber and polyisoprene.

Synonyms: Sulfur, Sulphur, Pulverized Sulfur, Rubbermaker's Sulfur, Commercial Sulfur

Recommended use of the chemical and restrictions on use:

Product Use/Restriction: Used in rubber compounding and various industrial applications.

Restrictions: Keep away from heat sources, sparks, or open flames.

Chemical distributor, or other responsible party Name, address, and telephone number:

Distributor Name: Western Reserve Chemical Corporation

Address: 4837 Darrow Road
Stow, OH 44224
USA

General Phone Number: 330 650 2244

General Fax Number: 330 650 2255

Emergency phone number::

Emergency Phone Number: Chemtrec 1 800 424 9300 USA

Website: www.wrchem.com

SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

GHS Pictograms:



Signal Word: WARNING!

GHS Class: * Skin Irritant, Category 3.
* Eye Irritant, Category 3.
Flammability, Category 1

Hazard Statements: *Flammable solid
*May be corrosive to metals
*May be harmful if swallowed
*May cause mild skin irritation
*May cause eye irritation
*May cause respiratory irritation.

Precautionary Statements: * Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
*Keep away from oxidizing agents.
* Use only non-sparking tools.
* Take precautionary measures against static discharge.
* Do not breathe dust/fume/gas/mist/vapours/spray.
* Wash hands thoroughly after handling.
* In case of inadequate ventilation wear respiratory protection.

Hazards not otherwise classified that have been identified during the classification process:

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects: Dusts and particles from this product may cause irritation.

Acute Health Effects: Potential Health Effects:
Sulfur dust is an eye irritant.
Skin irritation may be aggravated in persons with existing skin lesions.
Prolonged inhalation may cause irritation of the respiratory tract.
Breathing of dust may aggravate asthma and other pulmonary diseases.
Ingested sulfur is converted to sulfides in the gastrointestinal tract and ingestion can cause irritation of the GI tract and renal injury.
Individuals with known allergies to sulfide drugs may also have allergic reactions to elemental sulfur dust.
Swallowing large amounts may cause nausea and vomiting.

Carcinogenicity: This product does not contain any ingredient designated by NTP, IARC or OSHA as a probable human carcinogen.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

Chemical Name	CAS#	Ingredient Percent	EC Num.
Sulfur	7704-34-9	> 99.5% by weight	

SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

Eye Contact:	In case of eye contact, immediately flush eyes with plenty of water for a minimum of 15 minutes. Hold upper and lower lids apart to insure rinsing of the entire eye surface and lids. Do not use boric acid to rinse with; sulfur is an acid irritant. FOR SEVERE IRRITATION, GET MEDICAL ATTENTION.
Skin Contact:	Wash affected skin area with soap and water. Wash exposed clothing separately before reuse. If irritation develops, consult a physician.
Inhalation:	Move patient to fresh air. Watch for signs of allergic reaction. Use a bronchodilator inhaler if directed by asthma patient. Keep victim warm and quiet. If not breathing, clear airway and start mouth-to-mouth resuscitation. If heart has stopped beating, start cardiopulmonary resuscitation (CPR). GET MEDICAL ATTENTION.
Ingestion:	For large amounts ingested, if the victim is conscious and alert, give 2 or more glasses of water to drink. If available, give one tablespoon of Syrup of Ipecac to induce vomiting. If vomiting does occur, give fluids again. If vomiting has not occurred in 20 minutes, the same does of Syrup of Ipecac may be repeated one additional time. Alternatively, touching the back of the throat with a finger may induce vomiting. Do NOT give anything by mouth to an unconscious or convulsing person. GET MEDICAL ATTENTION.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

Suitable Extinguishing Media:	Water fog, spray, or regular foam. Do NOT use a direct water stream; which could create sulfur dust clouds and cause an explosion or move burning sulfur to adjacent areas. Burning Sulfur decomposes into TOXIC sulfur oxide gases such as: Sulfur dioxide and Hydrogen sulfide.
--------------------------------------	--

Specific hazards arising from the chemical:

Hazardous Combustion Byproducts:	Oxides of sulfur gases produced by burning sulfur.
Unusual Fire Hazards:	Sulfur dust suspended in air ignites easily, and can cause an explosion in confined areas. May be ignited by friction, static electricity, heat, sparks, or flames. Toxic gases will form upon combustion. Bulk/solid forms burn only at moderate rate, whereas dust burns with explosive violence.
Fire Fighting Instructions:	Wear full-faced, self-contained breathing apparatus and full protective clothing. Use a water fog to extinguish fire. Do NOT use a direct water stream; which could create sulfur dust clouds and cause an explosion or move burning sulfur to adjacent areas. Cool surrounding areas with water fog to prevent re-igniting. Fire will rekindle until mass is cooled below 310,°aF. Cool containers, tank cars or trailer loads with flooding quantities of water until well after fire is out. Prevent human exposure to smoke, fumes, or products of combustion (sulfur oxide gasses). Firemen exposed to contaminated smoke should be immediately relieved and checked for symptoms of exposure to toxic gasses. Seek medical attention immediately! This should not be mistaken for heat exhaustion or smoke inhalation. These are extremely irritating to the respiratory tract and may cause breathing difficulty and pulmonary edema. Symptoms may be delayed several hours or longer depending upon exposure.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personnel Precautions:	Maintain adequate ventilation. Wear a dust mask when dust is present or a respirator if smoke is present. Wear safety glasses. Avoid getting dust in eyes.
-------------------------------	--

Environmental precautions:

Environmental Precautions:	Do not allow runoff to enter lakes or waterways.
-----------------------------------	--

Methods and materials for containment and cleaning up:

Spill Cleanup Measures:	Minor spills such as torn or ruptured containers should be repaired or patched with tape if possible. Place spilled material in a disposable container.
--------------------------------	---

Methods for cleanup:	Gently sweep or shovel up spilled material using a natural fiber broom and/or aluminum shovel to prevent sparking, to avoid creating a dust cloud. Place sweepings in an appropriate chemical waste container for reclaiming or disposal in an approved facility. Wash spill site after clean-up is complete. As an immediate precautionary measure isolate spills or leak areas. Eliminate all sources of ignition, such as flares, sparks, or flames, in the immediate area. No smoking. Ventilate closed spaces before entering.
-----------------------------	--

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

- Handling:**
- *Avoid any conditions that might tend to create a dust explosion.
 - * Be careful not to create dust.
 - *Maintain good housekeeping practices to minimize dust build-up and dispersion.
 - * Eliminate sources of ignition.
 - * Keep away from heat, sparks and flames.
 - *Use nonferrous tools to reduce sparking.
 - *Sweep up or shovel spilled material using a natural fiber broom and/or aluminum shovel to prevent sparking.
 - * Maintain adequate ventilation in all areas.
 - *Avoid contact with eyes, skin and clothing.

- Hygiene Practices:** Wash skin thoroughly after handling and before eating or smoking. Wash contaminated clothing separately before reuse.

Conditions for safe storage, including any incompatibilities:

- Storage:**
- *Containers should be stored in a cool, dry, well-ventilated area.
 - *Keep container tightly closed.
 - *Store away from flammable materials, sources of heat, flame and sparks.
 - *Separate from chlorates, nitrates and other oxidizing agents.
 - *Exercise due caution to prevent damage to or leakage from container.

Specific end use(s):

- Work Practices:** Safety showers and eye wash stations should be available.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Appropriate engineering controls:

- Engineering Controls:** Maintain adequate ventilation in all areas. No flares or flames in area. Be careful not to create dust. Eliminate sources of ignition.

Individual protection measures:

- Eye/Face Protection:** Safety glasses or goggles

- Skin Protection Description:** Wear suitable, protective clothing to prevent skin irritation from dust. Wash skin thoroughly after handling and before eating or smoking. Wash contaminated clothing separately before reuse.

- Hand Protection Description:** Protective Gloves: Impervious

- Respiratory Protection:** Wear dust masks and use NIOSH/MSHA approved dust respirator if airborne concentrations exceed exposure limits.

- Other Protective:** Eyewash station. Safety shower.

PPE Pictograms:



- Notes :** Exposure Limits: No exposure limits have been established.

Work/hygienic practices: Wash skin thoroughly after handling and before eating or smoking. Wash contaminated clothing separately before reuse.

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

- Physical State:** Appearance (physical state): Lumps, crystals, powder or formed shape
- Color:** Yellow colored
- Odor:** Odorless or faint odor of rotten eggs
- Odor Threshold:** (ppm): Not determined
- Boiling Point:** 832 deg F (444 deg C)
- Melting Point:** 230-246 deg F (110-119 deg C)
- Density:** Bulk Density:
Lumps 75-115 lbs/ft³
Powder 33-80 lbs/ft³
- Specific Gravity:** 2.07 @ 70 deg F
- Vapor Pressure:** (mm Hg): 0 @ 280 deg F
- Evaporation Rate:** not determined
- pH:** not determined
- Flash Point:** 405 deg F (207.2 deg C)
- Lower Flammable/Explosive Limit:** 35 g/m³
- Upper Flammable/Explosive Limit:** 1400 g/m³
- Auto Ignition Temperature:** 478-511 deg F (248 - 266 deg C)

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:

Chemical Stability: Stable

Possibility of hazardous reactions:

Hazardous Polymerization: Will not occur

Conditions To Avoid:

Conditions to Avoid: (Instability): Keep away from heat sources, sparks and open flame.

Incompatible Materials:

Incompatible Materials: Materials to Avoid (Incompatibility): Oxidizing agents, may react violently. Corrosive to copper and copper alloys. Damp sulfur will corrode steel.

Hazardous Decomposition Products:

Special Decomposition Products: Oxides of sulfur gases produced by burning sulfur.

SECTION 11 : TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Acute Toxicity: Dermal LD50 (Rats): >2020 mg/kg body weight
Inhalation @ 90% LC50 (Rats): >5.49 mg/L air concentration
Oral LD 50 (Rats): >5050 mg/kg body weight
Skin: Slightly irritating (rabbits)
Eye: Minimal irritation in non-washed eyes (rabbits)

Eye: Sulfur dust is an eye irritant.

Skin: No adverse effects; however, skin irritation may be aggravated in persons with existing skin lesions.

Inhalation: Prolonged inhalation may cause irritation of respiratory tract. Breathing of dust may aggravate asthma and other pulmonary diseases.

Ingestion: Ingested sulfur is converted to sulfides in the gastrointestinal tract, and ingestion of 10 to 20 grams has caused irritation of the GI tract and renal injury. Swallowing large amounts may cause nausea and vomiting.

Sensitization: Not established.

Carcinogenicity: This product does not contain any ingredient designated by NTP, IARC, or OSHA as a probable human carcinogen.

Reproductive Toxicity: Not established.

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:

Ecotoxicity: No data available for this material.

Persistence and degradability:

Biodegradation: No Data

Bioaccumulative potential:

Bioaccumulation: No Data

Mobility in soil:

Mobility In Environmental Media: No Data

Other adverse effects:

Effect of Material On Aquatic Life: LC50- Oncorhynchus mykiss (rainbow trout) -> 180 mg/l -96h
LC50- other fish- 866 mg/l -96h
EC50- Daphnia magna (Water flea) -> 5,000 mg/l -48h

SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

Waste Disposal: Dispose of content and/or container in accordance with federal, state, and local regulations. Refer to Section 15.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name: Solid sulfur is not regulated if transported in non-bulk packaging,(less than 400kg per package) or if formed to a specific shape, such as prills, granules, pellets, pastilles, or flakes. [49CFR 172.102, Special Provision 30]

DOT Pictograms:



IATA Shipping Name: Sulfur

IATA UN Number: UN1350
 IATA Hazard Class: 4.1
 IATA Packing Group: III
 IATA Pictograms:



IMDG UN Number : UN1350
 IMDG Shipping Name : Sulfur(Sulphur)
 IMDG Hazard Class : 4.1
 IMDG Packing Group : III
 ICAO UN Number : UN1350
 ICAO Shipping Name: Sulfur
 ICAO Hazard Class : 4.1
 ICAO Packing Group : III

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

TSCA Inventory Status: This product is listed on the TSCA Inventory at CAS Registry Number 7704-34-9.

SARA: Sections 311/312: None. Section 313: None. Section 302: None.

CERCLA Section 302: Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA):
 If this product is accidentally spilled, it is not subject to any special reporting. We recommend that you contact state and local authorities to determine if there are other local reporting requirements.

RCRA 261.33 Code: Not subject to reporting because sulfur is not identified as a hazardous waste.

State Regulations: CT, FL, IL, LA, MA, MI, MN, NJ, NY, PA (RTK), RI – Not listed

Risk Phrases:
 * R10 - Flammable.
 * R322 - May be harmful if swallowed.
 * R36/37/38 - Irritating to eyes, respiratory system and skin.

Safety Phrase:
 * S16 - Keep away from sources of ignition - No smoking.
 * S23 - Do not breathe gas/fumes/vapour/spray.
 * S33 - Take precautionary measures against static discharges.
 * S28 - After contact with skin, wash immediately with plenty of water.
 * S38 - In case of insufficient ventilation, wear suitable respiratory equipment.



SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard: 1
 HMIS Fire Hazard: 1
 HMIS Reactivity: 0
 HMIS Personal Protection: J

Health Hazard	1
Fire Hazard	1
Reactivity	0
Personal Protection	J

SDS Revision Date: July 20, 2015

Notes : Important Note: This information relates to the specific product described herein and may not be valid for this material when used in combination with other raw materials. The information provided is without warranty regarding its accuracy or completeness. The information may not be valid under all conditions. The user has the final responsibility for determining the suitability of the product in a given application.

Copyright© 1996-2015 Actio Corporation. All Rights Reserved.