

**Material Safety Data Sheet**  
***PMI Insoluble Sulfur HD OT-20***

**Section 1: Product Information**

**Product Name:** Insoluble Sulfur HD OT-20  
**Chemical Name:** Sulfur  
**Synonyms:** S  
**Use:** Vulcanization Agent  
**Prepared By:** Precision Measurement International, LLC.

**Section 2: Chemical Composition**

**Composition:**

Chemical Name	CAS#	% by Weight
Sulfur	9035-99-8	80 ± 1
Naphthenic Oil	64742-53-6	20 ± 1

**Section 3: Hazardous Identification**

**Eye Contact:** May cause mild eye irritation. Mild Eye Irritation: signs/ symptoms can include redness, swelling pain, and tearing.

**Skin Contact:** May causes mild skin irritation. Mild Skin Irritation: signs/symptoms can include redness, swelling and itching. May cause an allergic skin reaction.

**Inhalation:** May cause mild respiratory irritation. May irritate mouth, nose, and throat. Irritation upper respiratory: signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

**Ingestion:** Illness may occur after a single swallowing of relatively large quantities of this material.

## Section 4: First Aid Measures

**In Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists. DO NOT RUB EYES!

**On Skin:** Remove contaminated clothing. Wash skin with water, using soap if available. Get medical attention if irritation persists.

**Inhaled:** Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

**Swallowing:** If symptoms persist consult doctor.

**Notes to Physician:** No specific antidote. Treatment based on sound judgement of physician and individual reactions of patient.

## Section 5: Fire and Explosion Data

**Extinguishing agents:** CO<sub>2</sub>, dry chemical, water spray.

**Non suitable Extinguishing agents:** NP

**Combustion products:** CO<sub>2</sub>, SO<sub>2</sub>

**Special Measures:** Fight fire from a safe distance and from a protected location. Flammable dust when in finely divided and highly suspended state. Do not allow runoff to enter waterways.

**Special hazards:** Toxic emissions may result if product is involved in a fire. Fire produces toxic sulfur dioxide gas.

**Protective equipment:** Self-contained breathing apparatus and gloves.

## Section 6: Accidental Release Measures

**Precautions for the environment:** Avoid spills to sewer and drains and dispersion of the product. The product is harmful to drinking water.

**Cleanup methods:** Solid spills are shovelled into closed plastic bag or containers for later recovery or disposal.

**Personal precautions:** Avoid direct contact or inhalation of the product. Keep unnecessary people away. Ventilate closed spaces before entering.

**Personal protection:** In presence of powdery product, use full-face protective mask with filter. In presence of vapours from hot product self-contained breathing apparatus (SCBA) is recommended. Wear goggles, and rubber overclothing, including gloves.

## Section 7: Handling and Storage

**Handling:** *General precaution:* Do not smoke, or eat during handling. Wash hands using liquid detergent. Wear appropriate protective clothing to avoid contact or inhalation of the product.

*Specific conditions:* Good local exhaust ventilation. Protective mask in presence of powdery product.

*Uses:* Used as vulcanizing agent for tire production.

**Storage:** *Storage conditions:* Storage at room temperature. Cool and well ventilated places.

*Incompatible material:* Concentrated Acid and alkali.

## Section 8: Exposure Control/ Personal Protection

**Personal protection:** *Respiratory protection:* In presence of high concentrations of odour, full-face protective mask with filter.

*Skin protection:* Gloves (rubber...) and appropriate clothing to avoid skin contact.

*Eye protection:* Safety goggles or face-shield to avoid powdery product.

*Other protective equipment:* Eyes washers and showers in working area.

**General precautions:** Local exhaust ventilation. Avoid prolonged contact or/and inhalation.

**Specific hygiene measures:** Washing/Showering facilities with a non-solvent based skin cleaner, hot water and soap must be provided and used. Overalls should be changed frequently and dry cleaned. Grossly contaminated clothing should be changed immediately. Use skin reconditioning cream after work.

**Exposure controls:** Engineering controls are not usually necessary if good hygiene practices are followed. Before eating, drinking, or smoking, wash face and hands thoroughly with soap and water. Avoid unnecessary skin contact. Impervious gloves and apron are recommended to prevent skin contact. For operations where eye or face contact can occur, wear eye protection such as chemical splash-proof goggles or face shield. Where exposures are below the Permissible Exposure Limit, no respiratory protection is required. Where exposures exceed the PEL, use respirator approved by NIOSH for the material and level of exposure.

## Section 9: Physical and Chemical Properties

**Appearance:** Powder.

**Color:** Yellow.

**PH:** Not applicable.

**Boiling Point:** Sulfur 445°C

**Flash Point:** Sulfur 270°C

**Explosive Properties:** NP

**Vapor Pressure:** NP

**Surface Tension:** NP

**Odor:** MILD.

**Melting Point:** Sulfur 108°C.

**Autoignition Temperature:** Sulfur 260°C

**Oxidizing Properties:** NP.

**Density:** 1.58g/ cm<sup>3</sup> at 20°C

**Partition Coefficient:** (n-octanol/ water)

**Water Solubility:** Insoluble

**Solubility:** Slightly soluble in organic solvent.

## Section 10: Stability and Reactivity Data

**Stability:** Stable at room temperature.

**Condition to Avoid:** Keep away from heat, sparks and flame. Avoid and source of ignition. Excessive heat.

**Materials to avoid:** Avoid contact with acidic, basic or oxidizing agents. Do not expose to amines. Contact with copper. Non-protected steel. Avoid contamination of product with small amounts of water.

**Hazardous decomposition/combustion products:** Fire may produce sulfur dioxide gas, and carbon dioxide.

**Polymerization risk:** NP

## Section 11: Toxicological Information

**Routes of exposure:** Contact with skin and eyes. Inhalation of the powdery product. Ingestion is not frequent.

**Carcinogenicity:** NP

**Reproductive toxicity:** NP

**Medical conditions which increase hazard to exposure:** NP

## Section 12: Ecological Information

**Pollutant potential:** *Persistence and degradability:* There are no data concerning the persistence and degradability of the product in natural systems.

*Mobility/bioaccumulative potential:* No data on the bioaccumulation for the product were found in literature. However, based on its insolubility in water it is not expected to appreciably bioconcentrate.

**Ecotoxicological effects:** No toxic to aquatic organisms.

## Section 13: Disposal Recommendation

**Disposal of Waste Method:** Recycling and recovery of the material when possible.

**Waste:** This product is not regarded as hazardous waste. Dispose in accordance with local regulations. Buy in a licensed landfill or burn in an approved incinerator according to local regulations.

*Disposal:* Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Handling:** Labelled and sealed containers.

EC provisions: Companies which recover, dispose, store, transport or handle waste should comply with Dir. European provisions on waste or other local, national or community provisions.

## Section 14: Transport Information

**Special precautions:** Stable at room temperature and during transport. To avoid heat, sparks and flame. Avoid and source of ignition. Excessive heat.

## Section 15: Other Regulatory Information

**CLASSIFICATION:** Singal Word: Warning

Skin Sens. 1      **Phrase H:**

**H350**

**Other regulations:** This product is listed in the Chemical Inventory TSCA (USA), AICS (Australia). This product is according to 453/2010/EC, 1272/2008/EC and 1907/2006/EC, used in the manufacture of rubber products, such as tyres.

## Section 16: Other Information

**Data bases consulted:**

EINECS: European Inventory of Existing

Commercial Substances.

TSCA: Toxic Substances Control Act, US

Environmental Protection Agency

HSDB: US National Library of Medicine.

RTECS: US Dept. of Health & Human Services

**H Phrases shown in the document:**

H350

**Legislation consulted:**

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Dir. 67/548/EEC about classification, labelling and packaging of dangerous substances (including amendments and adaptations in force).

Dir. 1999/45/EC about classification, labelling and packaging of dangerous preparations (including amendments and adaptations in force).

Dir. 91/689/EEC dangerous waste; Dir. 91/156/EEC waste management.

Royal Decree 363/95: Regulation about notification of new substances and classification, packaging and labelling of dangerous substances.

Royal Decree 255/2003: Regulation about classification, packaging and labelling of dangerous preparations.

European Agreement concerning the international carriage of dangerous goods by road (ADR).

Regulation on the international transport of dangerous goods on the railway. (RID)

International maritime code of dangerous goods. (IMDG)

International Air Transport Association (IATA) regulation pertaining to air shipment.

**GLOSSARY:**

CAS: Chemical Abstract Service	INSHT: Instituto Nal. de Seguridad e Higiene en el Trabajo
IARC: International Agency for Research on Cancer	VLA-ED: Valor Límite Ambiental – Exposición Diaria
ACGIH: American Conference of Governmental Industrial Hygienists.	VLA-EC: Valor Límite Ambiental – Exposición Corta
TLV: Threshold Limit Value	LD50: Lethal Dose Medium
TWA: Time Weighted Average	LC50: Lethal Concentration Medium
STEL: Short-term Exposure Level	EC50: Effective Concentration Medium
REL: Recommendable Exposure Limit	IC50: Inhibitory Concentration Medium
PEL: Permissible Exposure Limit	BOD: Biological Oxygen Demand.
	NP: Not Pertinent

The information given in this document has been compiled based on the best existing information sources, latest available knowledge and according to the current requirements on classification, packaging and labelling of hazardous substances. It does not imply the information is exhaustive or accurate in all cases. It is the user's responsibility to determine the validity of the information contained in this Material Safety Data Sheet to apply depending on the case.

\*\*\* END OF MSDS \*\*\*