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SAFETY DATA SHEET

THIOPHENOL

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

1.1 Product identifier:	
CAS Number:	108-98-5
EC number:	209-812-1
1.2 SYNONYMS:	• Phenyl mercaptan • Benzene thiol • Benzenethiol • Phenyl sulfhydryl • Mercaptobenzene • Thiobenzene

SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture:	Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation.
2.2 Label elements:	Labelling according to Regulation (EC) No 1272/2008 Acute toxicity (oral) (category 2) Acute toxicity (dermal) (category 2) Acute toxicity (inhalation) (category 1) Skin corrosion / limitation (category 2) Eye damage / limitation (category 2A) Toxic to reproduction (category 2)
Hazard Pictograms:	
Signal Word:	Danger
Hazard statements:	**H226:** Flammable liquid and vapour. **H300:** Fatal if swallowed. **H310:** Fatal in contact with skin. **H330:** Fatal in inhaled.

	H315: Causes skin irritation **H319:** Causes serious eye irritation **H361:** Suspected of damaging fertility or the unborn child. **H371:** May cause damage to nerves system **H335:** May cause respiratory irritation. **H372:** Causes damage to kidney through prolonged or repeated exposure **H400:** Very toxic for aquatic life. **H410:** Very toxic for aquatic life with long effects
Precautionary Statements:	**P101**: If medical advice is needed, have the product container or label at hand. **P102**: Keep out of reach of children. **P103**: Read label before use. **P210**: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. **P260**: Do not breathe dust/fume/gas/mist/vapors/spray. **P264**: Wash hands and exposed skin thoroughly after handling. **P270**: Do not eat, drink, or smoke when using this product. **P273**: Avoid release to the environment. **P280**: Wear protective gloves, protective clothing, and eye/face protection. **P391**: Collect spillage (if harmful to the environment). **P405**: Store locked up. **P501**: Dispose of contents/container in accordance with local/regional/national/international regulations.
2.3 Other hazards:	
Inhalation:	Inhalation of thiophenol vapors can cause severe irritation to the

	Respiratory tract, dizziness, headache, nausea, and in high concentrations, potential damage to the lungs and central nervous system.
Ingestion:	Ingestion of thiophenol can cause severe gastrointestinal irritation, nausea, vomiting, abdominal pain, and systemic toxicity, potentially affecting the liver, kidneys, and central nervous system.
Skin Contact:	Skin contact with thiophenol can cause irritation, redness, and burning sensations; prolonged or repeated exposure may result in dermatitis or systemic absorption, leading to further toxic effects.
Eye contact:	Eye contact with thiophenol can cause severe irritation, redness, watering, and burning, potentially leading to serious eye damage if not promptly treated.
Chronic Exposure:	Chronic exposure to thiophenol may result in prolonged skin and respiratory irritation, sensitization, and potential damage to the liver, kidneys, and nervous system due to its toxic and cumulative effects.
Aggravation of pre-existing conditions:	Chronic exposure to thiophenol may aggravate pre-existing conditions such as respiratory disorders (e.g., asthma), skin sensitivities, liver or kidney disease, and neurological disorders due to its toxic and irritant properties.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation:	Substances
CAS No:	Description: 108-98-5 THIOPHENOL
Identification number(s):	EC number: 209-812-1

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SECTION 4: First aid measures

4.1 Description of first aid measures	
General information:	
After inhalation:	If breathed in, move person into fresh air. Consult a physician
After skin contact:	Remove contaminated clothes, rinse skin with plenty of water. Consult a physician.
After eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes, Holding eyelids during flushing. Do not apply neutralizing agents. Consult a physician.
After swallowing:	Rinse mouth with water. Immediately after ingestion. Do not induce vomiting. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed:	Acute exposure to thiophenol can cause respiratory irritation, gastrointestinal distress, skin and eye irritation, while chronic exposure may lead to liver, kidney, and nervous system damage, as well as prolonged respiratory and skin issues.
4.3 Indication of any immediate medical attention and special treatment needed:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media:	Carbon dioxide. Water spray. Alcohol-resistant foam. Dry chemical or foam.
5.2 Special hazards arising from the substance or mixture:	Fire or excessive heat may cause production of hazardous decomposition products..
5.3 Advice for firefighters:	**Avoid direct water spray** as it may spread the fire or cause hazardous reactions. Cool exposed containers with water from a safe

	distance and ensure proper ventilation to disperse toxic gases.
5.4 further information:	Keep away from food, drink and animal feeding stuffs. Keep away from alkaline materials

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Avoid dust accumulation. Seek medical attention.
6.2 Environmental precautions:	Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Avoid entering into waterways.
6.3 Methods and material for containment and cleaning up:	Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. Vapour suppression foam should be used to reduce evaporation concentration.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:	Wear chemical-resistant gloves, protective clothing, and goggles or a face shield to prevent skin and eye contact.

	Handle in a well-ventilated area, preferably in a fume hood or with local exhaust ventilation to prevent the accumulation of harmful vapors.
7.2 Conditions for safe storage, including any incompatibilities:	Store in a cool, dry, well-ventilated area, away from sources of ignition, heat, and direct sunlight. Ensure containers are tightly closed when not in use. Keep away from oxidizing agents, strong acids, or bases. Ensure that all personnel handling thiophenol are trained in proper safety and emergency procedures.
Requirements to be met by storerooms and receptacles:	Storerooms should be well-ventilated to prevent the accumulation of toxic vapors and ensure proper airflow.
7.3 Specific end uses:	no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters	ACGIH (2014) TLV-TWA 0.1 ppm, skin
Additional information about design of technical facilities:	A system of local and general exhaust is recommended.
8.2 Exposure controls	
Appropriate engineering controls	Local exhaust ventilation (LEV) or fume hoods to prevent the buildup of vapors in the work area. Use explosion-proof electrical systems and equipment in areas where flammable vapors may accumulate.
Personal protective equipment:	Gloves, Goggles, FaceShield Apron, Suit, Respirator
General protective and hygienic measures:	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	Respiratory protection: Required.

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Protection of hands:	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws. Wash and dry hands.
	Eye protection: Required
Protection of Body:	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties General Information	
Appearance: Form:	Crystalline powder
Colour:	Colourless to slightly yellow
Odour:	Characteristics odor
pH-value:	No data available
Melting point/Melting range:	-15°C
Boiling point/Boiling range:	169°C
Flammability (solid, gaseous):	No data available
Ignition temperature:	No data available
Decomposition temperature:	No data available
Self-igniting:	Not applicable
Flash point:	56.2°C
Danger of explosion:	No data available
Explosion limits: Lower:	1.2 vol%
Explosion limits: Upper:	No data available
Vapour pressure:	0.21 kPa at 25°C
Density at 20 °C:	1.078 g/cm^3
Relative density:	No data available
Vapour density:	3.8
Evaporation rate:	No data available
Solubility in / Miscibility with-·water at 20 °C:	Completely soluble

Partition coefficient:(n-octanol/water)	2.52
Viscosity:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity	Oxidise when exposed to air. Air sensitive
10.2 Chemical stability	This chemical is stable at room temperature.
10.3 Possibility of hazardous reactions	Reacts with acids to generate poisonous sulphur oxide
10.4 Conditions to avoid	Incompatible materials, ignition sources, exposure to air and excess heat.
10.5 Incompatible materials	Oxidizing agents, Strong acids Strong bases, Reducing agents Halogenated compounds, Metallic salts
10.6 Hazardous decomposition products	Sulfur oxides, Carbon monoxide Carbon dioxide, Toxic fumes and gases Hydrogen sulfide

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute Toxicity:	**LD50** (Oral, Route) 46mg/kg **LD50** (Dermal, Route) : 134mg/kg **LC50** (Dermal, Route) : 300mg/kg
Skin corrosion/Irritation:	May cause skin irritation and corrosion in large quantities
Serious eye damage/irritation:	May cause eye irritation
Respiratory damage/irritation:	May cause respiratory irritation
Ingestion:	May cause gastrointestinal irritation
Germ cell mutagenicity:	No data available
Carcinogenicity:	No data available
Reproductive toxicity:	No data available

Specific target organ toxicity - single exposure:	No data available
Specific target organ toxicity - repeated exposure:	No data available
Aspiration hazard:	No data available
Signs and Symptoms of Exposure:	Refer section 2.3
11.2 Additional toxicological information	
Biodegradability:	biodegradable to some extent, but it may degrade more slowly in the environment

SECTION 12: Ecological information

12.1 Toxicity **Aquatic toxicity:**	Highly toxic for fish, not considered to be toxic for Bacteria.
12.2 Persistence and degradability:	Readily biodegradable in water.
12.3 Bioaccumulative potential:	No data available
12.4 Mobility in soil:	No data available
12.5 Other adverse effects:	No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Uncleaned packaging **Recommendation:**	dispose of in accordance with local hazardous waste regulations
Recommended cleansing agents:	Do not dispose with household waste.

SECTION 14: Transport information

14.1 UN-Number · ADR, ADN, IMDG, IATA:	2337
14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:	PHENYLMERCAPTAN
14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA :	6.1

14.4 Packing group · ADR, IMDG, IATA:	1
14.5 Environmental hazards:	YES
14.6 Special precautions for user:	Handle responsibly.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU	Directive 2012/18/EU, under that this substance is classified in listed substance as toxic and flammable liquid
Named dangerous substances:	This substance is listed in the part 2 annex 1 to the directive.
15.2 Chemical safety assessment:	Chemical assessment has not been carried out.

SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use, or disposal of the product.