

SAFETY DATA SHEET (SDS)

1. Identification of the substance/mixture and of the company/undertaking

Product Name : Rodutherm R-SP
Other Name : Heavy Alkyl Benzene Heat Transfer Fluid
Suggested applications and limited use: Heat transfer medium.
Manufacture: Rodun International BV Productieweg 8, 3481MH Harmelen, Netherlands info@rodun-int.com 0031-610275211

2. Hazards identification

Classification	
Physical Hazards	None
Health Hazards	None
Environment Hazards	-
Symbol(s):	None
Signal Word:	Caution
Hazard Statements:	May cause eye irritation. May cause skin irritation. May cause respiratory irritation.
Precautionary Statements:	Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Use explosion-proof electrical/ ventilating/ lighting/ equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/ eye protection/ face protection. Do NOT induce vomiting if swallowed. Do NOT disposal to the environment.
Other Hazards	-

3. Composition/information on ingredients

Chemical name	CAS Number	Concentration range (%)
C10-C40 Alkyl Benzene	68855-24-3	100

4. First aid measures

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Skin Contact In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
Significant symptom and hazard: Respiratory tract burn, skin burn, eye burn, mucous burn
Protection for first-aid personnel: Give first aid with grad C protective device. Avoid steam inhalation.
Tips for physician: If inhaled, give oxygen. Avoid gastric lavage or vomiting.

5. Fire-fighting measures

Suitable extinguishing media: Use DRY chemical powder, carbon dioxide gas, chemical fog or foam.
Specific hazards during firefighting: carbon oxides (CO, CO ₂) during high temperature burning. If the temperature of air and steam mixture is higher than flash point, it may cause fire.
Special fire-fighting procedures: 1. Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. 2. Stop the leak and flow of oil and use extinguishant, isolate the fire; If not dangerous, remove the storage vessel from the fire area. 3. Use water spray to cool the storage vessel near the fire area, until the fire is extinguished. 4. Pay attention that oil is easy to react with oxidizing agent. 5. The fire fighters should avoid inhaling the noxious gas from the high temperature burning. 6. Do NOT use water cannon to spray the leaked oil. 7. Try to use automatic or fixed firefighting equipment. Avoid personnel from the fire area.
Protection of fire-fighters: Be sure to use an approved/certified respirator or equivalent.

6. Accidental release measures

Personal precautions: Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations.
Environmental precautions: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up: according to local / national regulations

7. Handling and storage

Handling:

1. Wear PPE during moving and using the oil.
2. Keep away from open flames, hot surfaces, sources of ignition and strongly acid and strongly alkali.
3. Do NOT heat, polish, weld or drill the vessel. It can explode in high temperature, even if it is abandoned empty vessel.
4. Do NOT inflate the vessel, in order to avoid it from crack under high-pressure.

Storage:

No smoking. Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure controls/personal protection

Engineering measures:

1. Make the source of oil mist airtight and provide the exhaust system partly.
2. Adequate ventilation to control airborne concentrations below the exposure limits.

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 Organic Vapors. 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 workplace. Wear as appropriate: Flame-resistant clothing. Footwear protecting against chemicals

Hygiene measures:

Rodutherm R-SP

1. When using do not eat or drink. When using do not smoke.
2. Keep the workplace clean.

9. Physical and chemical properties

Viscosity @ 40 °C:	38.24 mm ² /s
Density @20 °C:	846.2 kg/m ³
Flash point(COC):	240 °C
Colour (ASTM):	≤ 1.5
5% Distillation point:	427 °C

Note: The above physical data is based on the typical properties of sample test in our lab. The typical properties cannot be considered as COA or technical requirements.

10. Stability and reactivity

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Conditions to avoid : Heat, sparks, fire, and oxidizing agents.
Materials to avoid : May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous decomposition products : Hydrocarbons , Carbon oxides.

11. Toxicological information

Exposure pathways: inhalation, dermal, eye, swallow.
Symptoms of overexposure: headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.
Acute toxicity Inhalation toxicity: the overdose of heated oil mist can cause uncomfortable feel, which can irritate the airway. Dermal toxicity: the dermal exposure can cause skin irritation and allergy. Eye toxicity: If spray into eye, it causes eye mucosa irritation, lacrimation and inflammation. Oral toxicity: vomiting and nausea. LD50: > 5000 mg/kg (rat, swallow) LD50: — mg/kg (rat, dermal) LC50: — mg/m³ /hr. (rat, inhalation)
Chronic toxicity Inhalation toxicity: fibroma, pneumonolipoidosis, lipid granuloma. Dermal toxicity: blocked pore will cause skin degreasing and dermatitis. Eye toxicity: conjunctivitis Oral toxicity: may be hazardous NO reproduction toxicity. According to OSHA standard report (29 CFR 1910.1200), this product is NOT listed as national toxic tort. IARC classified as Group 3: the product can NOT be confirmed as human blastomogen. EU 67/548/EEC: It is NOT listed as cancerogen.

12. Ecological information

Invertebrates: 48 hours, EL50 (water regulated fraction) *Daphnia magna* > 600 mg/ L.
Fish: 96 hours, LC50 rainbow trout (*Oncorhynchus Mykiss*) > 100 mg/ L.
 96 hours, LC50 carp (*Pimephales promelas*) > 1,000 mg/ L .
Algae: 96 hours, EL50 (water regulated fraction) *Algae* (*Selenastrum capricornutum*) > 1,000 mg/ L.

13. Disposal considerations

1. This material should be disposed of as a hazardous waste according to related laws and regulations.
2. Do NOT be discharged to gutter way and sewer.

14. Transport information

UN number	Unregulated
Un shipping name	Unregulated
United Nations hazard classification	Unregulated
Packing group	Unregulated
Packaging method	Pack according to the manufacturer's recommended methods, such as ton drums, iron drums, etc
Marine pollutants (Y/N)	NO
Transportation precautions	Please classify the transported goods according to appropriate regulations

15. Regulatory Information

National law and regulation
 GB 13690-92 (the classification of common hazardous chemical): NOT confirmed as hazardous chemical
 GB 6944-86 (the classification of hazardous goods and item): NOT confirmed as hazardous chemical

16. Other Information

References	1. Globally Harmonized System of Classification and Labeling of Chemicals [ghs] 2. Recommendations on the transport of dangerous goods-model regulations 3. GB/T 16483—2008 Safety Data Sheet for Chemical Products—Content and Order of Sections
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Disclaimer:

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information and responsibility given only apply for this product. This SDS provides basic safety knowledge for the product user. Although certain hazards are described herein, we cannot guarantee they are certainly correct and do not assume any legal liability. Final determination of suitability of any material is the sole responsibility of the user.