



**Jordan Petroleum Refinery Company LTD.**  
**Safety and Environment Department**

**Material Safety Datasheet: Vacuum Residue (VR)**

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY**

Product name : Vacuum Residue  
MSDS Number : PR-14  
Company : Jordan Petroleum Refinery Company LTD.  
Amman – Jordan.  
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**SECTION 2: HAZARDS IDENTIFICATION.**

- This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- Carcinogenicity – category 2.
- Signal word: WARNING!
- Precautionary statements:
  - Prevention: obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothes.
  - Response: if exposed or concerned: Get medical attention.
  - Supplemental label elements: Heated material can cause thermal burns.

Hazards not otherwise classified: May release Hydrogen Sulfide –poisonous gas- that can accumulate in confined spaces.

Potential acute health effects :  
Eye contact : Slightly irritating to the eyes. Possible tearing or redness.  
Skin contact : No known significant effects or critical hazards.  
Inhalation : Mist/ high concentration: May cause irritation to the nose, throat, upper respiratory tract and lungs.

**SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS.**

Component	CAS number	Wt%
Residues (petroleum), vacuum	64741-56-6	0 - 100
Hydrogen Sulfide	7783-06-4	0.0001



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**SECTION 4: FIRST AID MEASURES.**

Eye contact	:	Immediately flush eyes with plenty of water, occasionally lifting the upper and the lower eyelids get medical attention.
Skin contact	:	Rinse contaminated skin with plenty of water, Remove contaminated clothing and shoes, get medical attention, wash contaminated clothing and shoes before reuse.
Inhalation	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, obtain medical attention immediately.

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media	:	Use an extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	:	Do not use water jet.
Specific hazards arising from the chemical	:	In a fire or if heated, a pressure increase will occur and the container may burst. May release Hydrogen Sulfide –poisonous gas- that can accumulate in confined spaces.
Hazardous thermal decomposition products	:	Carbon Monoxide, Carbon Dioxide.
Special Protective actions for firefighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taking involving any personal risk or without suitable training.
Special PPE for firefighters	:	Firefighters shall wear appropriate protective equipment and self-contained breathing apparatus with a full face-piece operated in positive pressure mode.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material.
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Avoid breathing vapor/mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment, may release Hydrogen Sulfide –poisonous gas- that can accumulate in confined spaces.

Environmental Precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution.
Small spill	:	Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose via a licensed waste disposal contractor.
Large spill	:	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, watercourses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material (e.g. sand) and place in container for disposal according to the local regulations. Dispose of via a licensed waste disposal contractor.

**SECTION 7. HANDLING AND STORAGE**

Protective measures	:	Put on appropriate personal protective equipment, Avoid exposure, obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing vapor/mist. Keep in original container, keep containers tightly closed when not in use. Empty containers consider hazardous. Do not reuse containers.
Conditions for safe storage	:	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool, well-ventilated area, away from incompatible materials (oxidizing materials). Keep containers tightly closed and sealed until ready for use. Containers that have been used must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Occupational exposure limit of Hydrogen sulfide	:	ACGIH TLV (United States, 4/2014). TWA: 1 ppm, 8 hours. STEL: 5 ppm ,15 minutes.
Appropriate engineering controls	:	If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended limits. May release Hydrogen Sulfide –poisonous gas- that can accumulate in confined spaces.



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Environmental Exposure controls	:	Emissions from ventilation or work process equipment should be checked to ensure they comply with local environmental legislations. In some cases, fume scrubbers, filters, or engineering modifications will be necessary to reduce emissions to acceptable levels.
Eye/face protection	:	Wear safety glasses and face shield if contact is likely.
Skin protection	:	Wear chemically resistant impervious gloves and appropriate footwear. Personal protective equipment for the body should be selected based on the task being performed and the risk involved.
Work/hygiene practices	:	If contamination occurs, change clothing and discard internally contaminated gloves and footwear. Launder contaminated clothing before reuse. Always wash hands before eating, drinking, smoking or using the toilet. Ensure that safety showers are close to the work place.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state</b>	:	Liquid (viscous)
<b>Color</b>	:	Black / Dark brown
<b>Odor</b>	:	Asphalt
<b>Specific Gravity @15.6 °C</b>	:	1
<b>Flash Point</b>	:	Min. 110 °C
<b>Viscosity @ 100 °C</b>	:	Max. 1000 cSt
<b>Pour Point</b>	:	Max. 35+ °C
<b>Sulphur</b>	:	Max. 5.5 Wt%

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients
Chemical stability	:	The product is stable
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Incompatible materials	:	Oxidizing materials
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products will not be produced.
Reactivity	:	No specific test data related to reactivity available for this product or its ingredients



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**Section 11: Toxicological Information**

**Residues (petroleum), hydrodesulfurized vacuum:** LD50 Dermal, Rabbit, > 2000 mg/Kg

**SECTION 12. ECOLOGICAL INFORMATION**

Product/ingredient name	Result	Species	Exposure
Hydrogen Sulfide	Acute EC50 62 µg/l fresh water	Crustaceans- Gammarus pseudolimnaeus	2 days
	Acute LC50 2 µg/l fresh water	Fish	96 hours

**SECTION 13. DISPOSAL CONSIDERATIONS**

Disposal of waste material must be conducted in accordance with ministry of Environment regulations.

**SECTION 14. REGULATORY INFORMATION**

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed.  
OSHA Hazard Communication Standard (29 CFR 1910.1200) : listed.  
SARA 311/312 Classification : carcinogenicity - category 2

**SECTION 15. TRANSPORTATION INFORMATION**

This product is transported according to related Jordanian laws and legislations.

**SECTION 16. OTHER INFORMATION**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Prepared by : Safety and Environment Department  
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