

Material Safety Data Sheet

1. Identification of the Substance/Preparation and of the Company

Product Name	NEOVAC MR-100
Product Code	00005
Manufacturer	MORESCO Corporation.
Address	5-5-3, Minatojima-minamimachi, Chuo-ku, Kobe-city, Hyogo, Japan
Emergency Telephone Number	Functional Fluids Sales Department Sales Section Tel: 81-6-6262-3310 FAX: 81-6-6262-3327 Functional Fluids Sales Department Tokyo Sales Section Tel: 81-3-3273-7526 FAX: 81-3-3281-7756 Lubricating Oils Manufacturing Department Technology Section Tel: 81-791-42-2100 FAX: 81-791-43-3179 Customer Center Tel: 81-6-6262-3385 FAX: 81-6-6262-3327 Email Address: customercenter@moresco.co.jp
Recommended Use and Restrictions on Use	Vacuum Pump Oil

2. Hazard Identification

GHS Classification:

Physical Hazards	Not applicable to the GHS Classification
Health Hazards	Not applicable to the GHS Classification
Environmental Hazards	Not applicable to the GHS Classification
Hazardous to Aquatic Environment	

Label Elements:

Pictograms/Symbols	None
Signal Word	None
Hazard Statements	None
Precautionary Statements	[Prevention] None [Response] None [Storage] None [Disposal] None

3. Composition/Information on Ingredients

Distinction between Substance and Mixture :	Substance	
Chemical Name/Generic Name :	Petro-hydrocarbons	
Chemical Formula :	Not identified	
Ingredient and Concentration	Lubricating base oil	100%

4. First-Aid Measures

Inhalation:	Remove victim to fresh air and let him rinse mouth thoroughly with water. Wrapping a blanket and the like around him to keep warm for a rest, call a doctor/physician immediately.
Skin Contact:	Rinse skin with soap and water.
Eye Contact:	Immediately rinse eyes with clean water for at least 15 minutes. Remove contact lenses if present. Continue rinsing. If eye irritation persists, get medical attention.
Ingestion:	Call a doctor/physician immediately. Do not induce vomiting. If affected, the mouth should be rinsed out thoroughly with water.
Expected Acute and Delayed Symptoms, and Most Important Symptoms/Effects:	If swallowed, may suffer from diarrhea and vomiting. May cause inflammation if in eyes. May cause inflammation if on skin. May feel unwell if mist is inhaled.

5. Fire-Fighting Measures

Suitable Extinguishing Media	Foggy reinforcing agent, foam, powder, or carbon dioxide
Unsuitable Extinguishing Media	Jet water
Specific Hazards	Currently there is no useful information.
Specific Fire-Fighting Measures	Shut off the fire source. Use powder or carbon dioxide extinguishers at the beginning of fire. It is effective to intercept the air from a big fire with foam extinguishers. Use of water may cause spreading of fire. Cool the surrounding facilities with water spray. Evacuate non essential personnel around the fire.
Special Protective Actions for Fire-Fighting	Wearing protective glasses, protective clothing, and if necessary, respiratory protective equipment, start to fight fire on the windward side.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures	If skin or eye contact is possible, wear protective equipment. If mist is produced, wear respiratory protective equipment to avoid
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Environmental Precautions	inhalation. Take up as much as possible to avoid soil contamination and water pollution. Avoid release to the environment.
Collection/Neutralization and Methods/Materials for Containment	Eliminate the source of ignition of the surrounding. In the case of a large amount: Dike ahead of liquid spill area to minimize migration and then sweep into an empty container for disposal in a safe place. After disposal, wash away with plenty of water. In doing so, take care to prevent the high concentration of wastes from entering public watercourses such as rivers. In the case of a small amount: Take up into an empty container by absorbing the spill with earth and sand or rags, and furthermore sop up with rags thoroughly.
Prevention of Secondary Hazards	Remove all the ignition sources immediately. (Do not smoke nearby and keep away from sparks and flames.) Report to the related organs for help.

7. Handling and Storage

Handling:	Before repairing machinery with remnant oils on, remove them thoroughly in a safe place. Take precautionary measures against static discharge and wear electro conductive clothing and shoes.
Technical Measures	As vapors released from petroleum products are heavier than air, they are liable to stagnate. Due to it, attention should be paid to ventilation and fire. Handle at room temperatures, paying attention to moisture and to impurities not to mix with. If skin or eye contact is possible, wear protective equipment. If mist is produced, wear respiratory protective equipment to avoid inhalation. Use a pump and the like to take out of container. Do not suck through a tube. Do not weld, heat, hole, and cut off the container. Residues may ignite involving explosion.
Local Exhaust Ventilation/ Full Ventilation System	Refer to '8. Exposure Controls/Personal Protection'.
Avoiding Contact	Refer to '10. Stability and Reactivity'.
Precautions for Safe Handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Be cautious not to use any naked fire.
As vapors released from petroleum products are heavier than air, they are liable to stagnate.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Do not eat, drink or smoke when using this product.
Do not press an empty container. It may explode under pressure.
Do not drink.
Keep out of reach of children.

Storage:

Technical Measures	Avoid heat, sparks, flames, and static electricity. Keep container tightly closed.
Incompatible Materials	Refer to '10. Stability and Reactivity'.
Conditions for Safe Storage	Store in a well-ventilated area. Store avoiding exposure to direct sunlight. Store away from oxidizer. Store locked up.
Materials for Containers/Packaging	When replacing the container, use metal or glass container. Some kinds of resin-treated container may melt. Use airtight, anti-breakage type containers.

8. Exposure Controls/Personal Protection

Permissible Concentration (Exposure Limit, a biological exposure index):

Japan Society for Occupational Health (2010): $3\text{mg}/\text{m}^3$ (mineral oil mist) ¹⁾

ACGIH (2010): TWA $5\text{mg}/\text{m}^3$ (mineral oil mist) ²⁾

Standards for Allowable Density of Hazardous Substances in Labor Operation Air: Not established

Engineering Controls: When mist and vapors are produced, seal off sources or provide exhaust ventilation. Facilities for rinsing eyes and washing a body are required near the workplace.

Personal Protective Equipment

Respiratory Protection: Wear appropriate respiratory protection.

Hand Protection: If necessary, wear oil-resistant protective gloves.

Eye Protection: If diffusion is possible, wear eye protection.

Skin and Body Protection: If necessary, wear protective clothing and face protection.

Hygienic Precautions: Wash hands thoroughly after handling.
Regularly inspect protective equipment according to the inspection table of protective equipment.
Do not eat, drink or smoke when using this product.

9. Physical and Chemical Properties

Physical State:

Appearance	Liquid
Color	Light yellow
Odor	Slight Oily odor
pH	Not applicable
Melting/Freezing Point	Not applicable
Boiling Point	165°C/0.1mmHg
Flash Point	≥200°C (COC)
Explosive Range (Explosive Limits)	Upper limit: 7% Lower limit: 1% (estimated value)
Vapor Pressure	No data available
Vapor Density (air=1)	No data available
Specific Gravity (Density)	0.88g/cm ³ (15°C)
Solubility	Insoluble in water
Partition Coefficient: n-octanol/water	No data available
Auto-ignition Temperature	No data available
Pore point	≤-15°C
Volatility	None (at room temperatures)

10. Stability and Reactivity

Stability	Stable
Possibility of Hazardous Reactions	Reacts with strong oxidizer.
Conditions to Avoid	No data available (Hazardous reactions will not occur under normal use)
Incompatible Materials	Strong oxidizer
Hazardous Decomposition Products	None

11. Toxicological Information

Acute Toxicity:

Oral	Information is not classified as Acute Toxicity (Oral).
Dermal	Information is not classified as Acute Toxicity (Dermal).
Inhalation	Information is not classified as Acute Toxicity (Inhalation).
Skin Corrosion/Irritation	Information is not classified as Skin Corrosion/Irritation.
Serious Eye Damage/Eye Irritation	Information is not classified as Serious Eye Damage/Eye Irritation.
Respiratory or Skin Sensitization	Information is not classified as Respiratory or Skin Sensitization.
Germ Cell Mutagenicity	Information is not classified as Germ Cell Mutagenicity.
Carcinogenicity	Information is not classified as Carcinogenicity.
Reproductive Toxicity	Information is not classified as Reproductive Toxicity.

STOT/Systemic Toxicity - Single Exposure	Information is not classified as Specific Target Organ Toxicity/ Systemic Toxicity (Single Exposure).
STOT/Systemic Toxicity – Repeated Exposure	Information is not classified as Specific Target Organ Toxicity/ Systemic Toxicity (Repeated Exposure).
Aspiration Hazard	Information is not classified as Aspiration Hazard.

12. Ecological Information

Ecotoxicity	Information is not classified as Aquatic Toxicity.
Persistence and Degradability	No information available
Bioaccumulative Potential	No information available
Mobility in Soil	No information available
Other Adverse Effects	No information available
Environmental Criteria	No information available

13. Disposal Considerations

Waste Residues	Dispose the waste according to national and local regulations. Do not dump.
Contaminated Containers and Packaging	Contaminated or empty container/packaging are to be disposed according to national and local regulations.

14. Transport Information

International Regulation	
UN Classification	Not applicable
Special Precautions	Load the containers in a manner that they are certain not to result in direct sunlight exposure, damage, corrosion, leak, while being transported. Do not place heavy load on top of the container.

15. Regulatory Information

No Information

16. Other Information

- References:
- 1) Recommendation of Occupational Exposure Limits by Japan Society for Occupational Health
 - 2) Thresholds limit values for chemical substances and physical agents and biological exposure indices by ACGIH
 - 3) MSDS of raw materials

1. As evaluations on hazards are not necessary satisfactory, special attention should be paid for use.
2. This MSDS, summarizing matters to be attended to, is required for proper use of the product and is intended for normal use.

3. Referring to this MSDS, properly use and handle this product on the user's own responsibility.
4. The contents of this MSDS are based on information available as of today and our knowledge. The information, data, and evaluations herein are not guaranteed, and in addition, may be revised due to revision of laws or knowledge newly obtained.