

Material Safety Data Sheet

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

| | | | |
|---|---|---------------------|--|
| Product Name | NEOVAC SX | | |
| Product Code | 00117 | | |
| 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:

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|----------------------------------|--|------------|
| Physical Hazards | Not applicable to the GHS Classification | |
| Health Hazards | Acute Toxicity - Dermal | Category 5 |
| Environmental Hazards | The Aquatic Environment-Chronic Hazard | Category 4 |
| Hazardous to Aquatic Environment | | |

Label Elements:

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|--------------------------|---|
| Pictograms/Symbols | None |
| Signal Word | Warning |
| Hazard Statements | May be harmful in contact with skin |
| | May cause long lasting harmful effects to aquatic life |
| Precautionary Statements | [Prevention] |
| | Avoid release to the environment. |
| | [Response] |
| | Call a POISON CENTER/doctor if you fell unwell. |
| | [Storage] |
| | None |
| | [Disposal] |
| | Dispose of contents/container in accordance with regulations. |

3. Composition/Information on Ingredients

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| Distinction between Substance and Mixture : | Mixture | |
| Chemical Name/Generic Name : | Alkyl diphenyl ether, Lubricating oil additive | |
| Chemical Formula : | Not identified | |
| Ingredient and Concentration | Alkyl diphenyl ethel | 98 -100% |
| | Lubricating oil additive | ≤2% |

4. First-Aid Measures

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| 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

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| 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. |
| Special Protective Actions for Fire-Fighting | Evacuate non essential personnel around the fire. |
| | 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 inhalation.

Environmental Precautions

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/

Refer to '8. Exposure Controls/Personal Protection'.

Full Ventilation System

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.
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): No information ¹⁾

ACGIH (2010): No information 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: Not normally required, wear hazard mask (for organic gas) if necessary.

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:

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| Appearance | Liquid |
| Color | Light yellow |
| Odor | Slightly Oily odor |
| pH | Not applicable |
| Melting/Freezing Point | Not applicable |
| Boiling Point | 155°C/0.1mmHg |
| Flash Point | ≥200°C (COC) |
| Explosive Range (Explosive Limits) | No data available |
| Vapor Pressure | No data available |
| Vapor Density (air=1) | No data available |
| Specific Gravity (Density) | 0.93g/cm ³ (15°C) |
| Solubility | Insoluble in water |
| Partition Coefficient: n-octanol/water | No data available |
| Auto-ignition Temperature | No data available |
| Pore point | ≤-20°C |
| Volatility | None (at room temperatures) |

10. Stability and Reactivity

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|------------------------------------|---|
| Stability | Stable |
| Possibility of Hazardous Reactions | No data available (Hazardous reactions will not occur under normal use) |
| Conditions to Avoid | No data available (Hazardous reactions will not occur under normal use) |
| Incompatible Materials | Halogen, Strong Acid, Strong Alkali, Strong oxidizer |
| Hazardous Decomposition Products | None |

11. Toxicological Information

Acute Toxicity:

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| Oral | ATEmix(Oral) > 5000mg/kg can be estimated (based on GHS Classification). |
| Dermal | ATEmix(Dermal) ≥ 2000mg/kg can be estimated (based on GHS Classification). Classified into Acute Toxicity (Dermal) Category 5 as mixture. |
| 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. |

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| 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

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| Ecotoxicity | Classified into The Aquatic Environment- Chronic Hazard Category 4 as mixture. |
| 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

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| 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

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|--------------------------|---|
| 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.