

SAFETY DATA SHEET

DATE OF ISSUE/LAST REVISION : February 18, 2013

OUR REF No. III-77

1. IDENTIFICATION OF THE PRODUCT AND OF THE SUPPLIER

【PRODUCT NAME】 HANARL UD-321
【USE OF THE CHEMICAL】 Lubricant
【SUPPLIER'S NAME】 Kanto Kasei Ltd.
【SUPPLIER'S ADDRESS】 1-8-1, Marunouchi, Chiyoda-ku, Tokyo JAPAN, 100-0005
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2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION

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| PHYSICAL HAZARDS | : Flammable solids | Not classified |
| HEALTH HAZARDS | : Acute toxicity (oral) | Not possible to classify |
| | : Acute toxicity (dermal) | Not possible to classify |
| | : Acute toxicity (inhalation : mist) | Not possible to classify |
| | : Skin corrosion/irritation | Not possible to classify |
| | : Serious eye damage/eye irritation | Not possible to classify |
| | : Respiratory sensitization | Not possible to classify |
| | : Skin sensitization | Not possible to classify |
| | : Germ cell mutagenicity | Not possible to classify |
| | : Carcinogenicity | Not possible to classify |
| | : Reproductive toxicity | Not possible to classify |
| | : Specific target organ toxicity (Single exposure) | Not possible to classify |
| | : Specific target organ toxicity (Repeated exposure) | Not possible to classify |
| | : Aspiration hazard | Not possible to classify |

Hazard identification that there is no description in the above-mentioned is
Not classified or Not possible to classify.

LABEL ELEMENTS

SYMBOLS : No pictogram
SIGNAL WORD : None
HAZARD STATEMENT : Harmful thermal decomposition products may be produced such as gaseous hydrogen fluoride when heated at extremely high temperature.
: May be harmful if inhaled thermal decomposition products.
: May be harmful if inhaled vapor/mist produced at 260°C or more.
: If smoked without washing the hand which a product stuck to, may be caused the symptom that resembled influenza called polymer fume fever.

PRECAUTIONARY STATEMENTS 【Prevention】

- : Do not eat, drink or smoke when using this product.
- : Use personal protective equipment or ventilating, and avoid to exposure.
- : Use only outdoors or in a well-ventilated area.
- : Avoid breathing mist/vapors/spray.
- : Wash hands thoroughly after handling.

【Response】

- : If swallowed, do not induce vomiting.
- : If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- : If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
- : If exposed or concerned, get medical advice/attention.
- : If swallowed, get medical advice/attention.
Rinse mouth.
- : If eye irritation persists, get medical advice/attention.
- : If you feel unwell, get medical advice/attention.
- : If skin irritation occurs, get medical advice/Attention.

【Storage】

- : Store in cool and dark area.
- : Avoid contact with fire and flammable material, and storage at the same place.

【Disposal】

- : Consign contents and the container to a special waste management trader who obtains the prefectural governor's permission on business.

COUNTRY/AREA INFORMATION

: Refer to 15. REGULATORY INFORMATION

OTHER HAZARD STATEMENT

IMPORTANT SYMPTOM

: No data available

ASSUMED STATE OF EMERGENCY : No date available

3. COMPOSITION/INFORMATION ON INGREDIENTS

DISTINCTION

(SINGLE PRODUCT/MIXTURE) : Mixture

CHEMICAL NAME : Dry film lubricant

COMPOSITION : Fluorinated solvent 90~99wt%

: Fluoric oil, solid lubricants and others 1~10wt%

CHEMICAL FORMULAE : Not disclose, because of trade secrets

CAS NO : Not disclose, because of trade secrets

UN CLASS/UN NUMBER : Not applicable

4. FIRST-AID MEASURES

IF INHALED

- : Remove victim to fresh air.
- Get medical advice/attention.

IF ON SKIN

- : Wash the affected area with soap and water.

IF IN EYES

- : Flush eyes with plenty of water, and get medical advice/attention.

IF SWALLOWED

- : Do not induce vomiting. Get medical advice/attention.
- If a mouth is polluted, wash it with plenty of water.

MOST IMPORTANT SYMPTOM

PROTECTION OF PERSON

: No data available

GIVE FIRST-AID

: No data available

SPECIAL NOTE TO DOCTOR

: No data available

5. FIRE-FIGHTING MEASURES

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| EXTINGUISHING MEDIA | : Use spray foam, foam, powder or CO ₂ gas extinguishing media. |
| FIRST FIRE | : Use powder or CO ₂ gas extinguishing media. |
| LARGE-SCALE FIRE | : Use foam extinguishing media. |
| UNSUITABLE EXTINGUISHING MEDIA | : Water must not be used to extinguish. |
| PECULIAR HAZARD STATEMENT | : May be harmful if inhaled vapor/mist produced at 260°C or more. |
| PECULIAR EXTINCTION METHOD | : Cut off combustion source of fire. : Sprinkle water to equipment to cool. : Prohibit to enter to the scene of a fire except staff. |
| PROTECTION OF THE PERSON EXTINGUISHES FIRE | : Extinguish fire on the windward side of the fire and not fail to wear protector. |

6. ACCIDENTAL RELEASE MEASURES

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| PERSONAL PRECAUTIONS | : Not fail to wear protector. |
| ENVIRONMENTAL PRECAUTIONS | : Take care not to be drained into river and drain. : If the medicine is used for the sea, it should be what suits the standard in the technology that provides by the transportation ministerial ordinance. |
| METHODS FOR CONTAINMENT AND CLEANING UP SMALL QUANTITY | : Remove source of a fire. : Remove with a spatula or shovel, or absorb with soil, sand or a cloth. Wipe off remainder with a cloth. |
| LARGE QUANTITY | : Prevent access by roping off the perimeter around the leak. Prevent the spilling grease from spreading with soil and sand. After draining off to a safety area, collect as much as possible into an empty container. |
| AT SEA | : Prevent dispersion by creating an oil fence. Scoop up or use adsorption mats to soak up. When chemicals are used, these must comply with technological standards as set down in ministry of transport ordinances. |
| PREVENTION MEASURE OF SECOND DISASTER | : Inform promptly a related organization to attempt prevention and the expansion prevention of the accident when leaking. : Remove source of a fire and prepare extinguishing media. |

7. HANDLING AND STORAGE

HANDLING

TECHNICAL MEASURES

- : Avoid contact with flame, sparks and heated objects. Do not allow unnecessary dispersion of vapor.
- : Take steps to prevent static electricity, and use conductive work clothes and shoes.
- : Remove completely it in the safety area, if the mechanical equipment are repaired and are processed.
- : Wear protector, if there is possibility of skin contact or eye contact.
- : Avoid inhalation of vapor or mist.

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| NOTES | : Containers must be sealed. : The vapor from petroleum products builds up easily as it is heavier than air. It is therefore necessary to ensure adequate ventilation and take care with fire. |
| NOTES OF SAFE HANDLING | : If smoked without washing the hand which a product stuck to, may be caused the symptom that resembled influenza called polymer fume fever. The symptom fades away 36-48 hours later, and there are not the accumulation characteristics. : Handling should be done at room temperature. Prevent contamination of water and impurities. : Avoid contact with halogens, strong acids, alkaline substances and oxidants. |
| STORAGE | : Protect from sunlight. Store in a well-ventilated place. : Avoid heat, sparks, flames and any build-up of static electricity. : Electrical equipment used in the storage area must have a non-explosive structure, and devices must be earthed. : Avoid contact and storing with halogens, strong acids, alkaline substances and oxidants. : Don't turn the heat to an empty container. : Don't cut, weld, heat, or make the hole the container. Traces might ignite attended with the explosion. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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| EQUIPMENT MEASURES | : If the vapor arises, ventilation equipment or closing of vapor source is needed. : The equipment for washing and the body washing of eyes is set up near the handling area. |
| MANAGEMENT CONCENTRATION | : Not established |
| ALLOWABLE CONCENTRATION | : Not established : ACGIH Not established |
| PROTECTION | |
| RESPIRATORY PROTECTION | : If necessary, wear hazard mask. |
| HAND PROTECTION | : Wear the resistance to oil if coming in contact repeating for a long term. |
| EYE PROTECTION | : Wear safety glasses with side shields. |
| SKIN PROTECTION | : Wear the long sleeve work wear of the resistance to oil if handling or getting wet for a long term. |
| APPROPRIATE SANITARY REQUIREMENT | : Take off and wash the wet clothes, and use again. |

9. PHYSICAL AND CHEMICAL PROPERTIES

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| APPEARANCE | : Liquid |
| COLOR | : Milky white |
| ODOR | : Slightly ether odor |
| pH | : No data |
| MELTING POINT/FREEZING POINT | : No data |
| INITIAL BOILING POINT AND BOILING | : 60~65°C |
| FLASH POINT | : Not applicable Does not flash |

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| UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS | : Not applicable |
| VAPOR PRESSURE | : Approx. 202 mmHg (25°C) |
| VAPOR DENSITY | : Approx. 8.6 (0°C) |
| RELATIVE DENSITY (WATER=1) | : Approx. 1.52 (25°C) |
| SOLUBILITY | : Water : Insoluble Other solvent : Insoluble |
| AUTO-IGNITION TEMPERATURE | : Approx. 405 °C |
| DECOMPOSITION TEMPERATURE | : No data |
| VISCOSITY | : No data |

* These data except for appearance are about main solvent.

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| 10. STABILITY AND REACTIVITY | |
| STABILITY | : Stability at room temperature |
| POSSIBILITY OF HAZARDOUS REACTIONS | : No reaction with water |
| CONDITIONS TO AVOID | : Heating, high temperature, and contact hazardous material |
| INCOMPATIBLE MATERIALS | : Avoid contact with halogens, strong acids, alkaline substances and oxidants. |
| HAZARDOUS DECOMPOSITION PRODUCTS | : Harmful thermal decomposition products may be produced such as gaseous hydrogen fluoride when heated at extremely high temperature. : A corpuscle that causes polymer fume fever is produced when heated or burned at 260°C or more. At 400°C or more, harmful hydrogen fluoride gas is produced. |
| OTHER | : No data available |

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| 11. TOXICOLOGICAL INFORMATION | |
| ACUTE TOXICITY | : Oral : No data Dermal : No data Inhalation(vapor) : No data Inhalation(mist) : No data |
| SKIN CORROSION/IRRITATION | : No data available |
| SERIOUS EYE DAMAGE/ IRRITATION | : No data available |
| RESPIRATORY OR SKIN SENSITIZATION | : No data |
| GERM CELL MUTAGENICITY | : No data available |
| CARCINOGENICITY | : No data available |
| REPRODUCTIVE TOXICITY | : No data available |
| STOT-single exposure | : No data available |
| STOT-repeated exposure | : No data available |
| ASPIRATION HAZARD | : No data available |

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| 12. ECOLOGICAL INFORMATION | |
| TOXICITY | FISH : No data available OTHERS : No data available |
| PERSISTENCE/DEGRADABILITY | : No data available |
| BIOACCUMULATIVE POTENTIAL | : No data available |
| MOBILITY IN SOIL | : No data available |
| OTHER ADVERSE EFFECTS | : No data available |

13. DISPOSAL CONSIDERATIONS**WASTE DISPOSAL METHOD**

: Consider disposal via licensed waste disposal company. Scrap may be incinerated under properly controlled condition. Follow all regulations in your country.

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

INTERNATIONAL REGULATIONS**FOR TRANSPORT**

UN CLASS : Not regulated (Not dangerous)
UN NUMBER : Not applicable
PRODUCT NAME : Not applicable
CONTAINER GRADE : Not applicable

SEAWATER POLLUTION MATERIAL : None

SPECIFIC SECURITY PRECAUTION

AND CONDITION OF TRANSPORTATION : The container is avoided direct sunlight, and it loads so as not to be damaged, corroded and leak.
The collapse of cargo piles is prevented surely.
: Don' t pile the heavy load.

15. REGULATORY INFORMATION

Ensure this material in compliance with nation's requirements, and ensure conformity to local regulation.

* SAFETY DATA SHEETS ARE ISSUED BASED ON THE LATEST INFORMATION WE HAVE KNOWN. HOWEVER, THESE ARE NOT THE ONE TO INSURE SAFETY. THESE ARE PROVIDED TO COMPANIES HANDLING THE MATERIALS AS REFERENCE INFORMATION REGARDING HAZARDOUS AND HARMFUL CHEMICALS TO ENSURE SAFE HANDLING. WE ASK THAT THESE SHEETS BE USED BY COMPANIES AS REFERENCE AND WITH THE UNDERSTANDING THAT IT IS NECESSARY FOR MESURES APPROPRIATE TO THE SPECIFIC CIRCUMSTANCES RELATED TO HANDLING THE MATERIALS TO BE TAKEN UNDER THEIR OWN RESPONSIBILITY. ACCORDINGLY, THIS DATA SHEET IN NO WAY CONSTITUTES A GUARANTEE OF SAFETY.