SAFETY DATA SHEET

DATE OF ISSUE/LAST REVISION: February 15, 2013

OUR REF No. Ⅲ-149

1. IDENTIFICATION OF THE PRODUCT AND OF THE SUPPLIER

 [PRODUCT NAME]
 HANARL UD-4420

 [USE OF THE CHEMICAL]
 Lubricant

[SUPPLIER'S NAME] Kanto Kasei Ltd.

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2. HAZARDS IDENTIFICATION GHS CLASSIFICATION

PHYSICAL HAZARDS : Flammable solids Not classified

HEALTH HAZARDS : Acute toxicity (oral) Not possible to classify

: Acute toxicity (dermal) Not possible to classify

: Acute toxicity

: Serious eye damage/

eye irritation
Respiratory sensitization
Skin sensitization
Germ cell mutagenicity
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 $260^{\circ}\mathrm{C}$

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 COMPOSITIION : Fluorinated solvent

: Fluorinated solvent $$85{\sim}95 \text{wt}\%$: Fluoric oil, solid lubricants and others $5{\sim}15 \text{wt}\%$

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 MESURES

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

EXTINGUISHIES FIRE : Extinguish fire on the windward side of the fire and

not fail to wear protector.

6. ACCIDENTAL RELEASE MEASURES

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 MESURE 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 MESURES

: 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.

: Containers must be sealed.

NOTES : 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.

: Protect from sunlight. Store in a well-ventilated

: 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

EQUIPMENT MESURES : 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 CONCENTRAITON : Not established ALLOWABLE CONCENTRATION : Not established

: ACGIH Not established

PROTECTION

STORAGE

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

APPEARANCE

COLOR : Milky white

ODOR : Slightly ether odor

: No data рΗ MELTING POINT/FREEZING POINT : No data

INITIAL BOILING POINT

AND BOILING : 60~65°C

FLASH POINT : Not applicable

Does not flash

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. 5 (25 $^{\circ}$ C)

SOLUBILITY : Water : Insoluble

Other solvent : Insoluble

AUTO-IGNITION TEMPERATURE : Approx. 405 °C DECOMPOSITION TEMPERATURE : No data : No data

* These data except for appearance are about solvent.

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

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 DANAGE/

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

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

HANARL UD-4420

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.

INTERNATIANAL REGULATIONS

FOR TRANSPORT : Not regulated (Not dangerous)

UN CLASS : Not applicable
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 DATE 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.