SAFETY DATA SHEET

DATE OF ISSUE/LAST REVISION: April 26, 2017

OUR REF No. Ⅲ-609

1. IDENTIFICATION OF THE PRODUCT AND OF THE SUPPLIER

[PRODUCT NAME] HANARL UD-1239E-1

[USE OF THE CHEMICAL] Lubricant

[MANUFACTURER/SUPPLIER] Kanto Kasei Ltd.

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[DIVISION] Environmental quality assurance

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2. HAZARDS IDENTIFICATION

EU CLASSIFICATION

(EC) 1272/2008 (CLP) : Not classified

LABEL ELEMENTS

No label elements according to Regulation (EC) No. 1272/2008

OTHER HAZARD STATEMENT

IMPORTANT SYMPTOM : No data available
ASSUMED STATE OF EMERGENCY : No data available
Environmental Hazards : No significant hazards.

Material does not meet the criteria for PBT or vPvB

in accordance with REACH Annex XIII.

3. COMPOSITION/INFORMATION ON INGREDIENTS

DISTINCTION

(SINGLE PRODUCT/MIXTURE) : Mixture

CHEMICAL NAME : Dry film lubricant COMPOSITIION : Fluorinated solvent

: Fluorinated solvent Min. 97wt% : Fluoric oil and others Max. 3wt%

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.

: No data available

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

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 : Remove source of a fire.

SMALL QUANTITY : Remove with a spatula or

: 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 : 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.

: 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

ON : 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

APPEARANCE : Liquid

COLOR : Colorless

ODOR : Slightly ether odor

p H : No data

MELTING POINT/FREEZING POINT

INITIAL BOILING POINT

AND BOILING : $60\sim65^{\circ}\text{C}$

FLASH POINT : Not applicable

Does not flash

: Approx. -135℃

UPPER/LOWER FLAMMABILITY

OR EXPLOSIVE LIMITS : Not applicable

VAPOR PRESSURE : Approx. 26, 931 Pa (25℃)

VAPOR DENSITY : Approx. 8. 6

RELATIVE DENSITY

(WATER=1) : Approx. 1. 5

SOLUBILITY : Water : < 12 ppm

Other solvent : Insoluble

AUTO-IGNITION TEMPERATURE : Approx. 405 °C

DECOMPOSITION TEMPERATURE : No data

VISCOSITY : Approx. 0.001 Pa-s(23°C)

 $\boldsymbol{\ast}$ These data except for appearance are about a 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.

OTHER : No data available

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY : 0ral : rat $LD_{50} > 5000 mg/kg$: Not classified

Dermal: No data

RESPIRATORY OR SKIN

SENSITIZATION : No data

CARCINOGENICITY BASE OIL : IARC, OSHA, NTP, EU, EPA, ACGIH Not established

THICKNER : No data available ADDITIVE : No data available

12. ECOLOGICAL INFORMATION

ACUATIC TOXICITY ACUTE : No toxicity CHARONIC : No toxicity

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 all means of transport regulations, including air, sea and land.

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

EU INFORMATION

CLASSIFICATION (EC1272/2008) : See SECTION2

HAZARDOUS COMPONENT(s) : None

SPECIFIC PROVISIONS IN RELATION TO PROTECTION OF MAN OR THE ENVIRONMENT

OTHERS : None

16. OTHER INFORMATION

Please read the SDS well before use.

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.