

SAFETY DATA SHEET

OUR REF No. III-448

1. IDENTIFICATION OF THE PRODUCT AND OF THE SUPPLIER

【PRODUCT NAME】 HANARL RX-4441
【USE OF THE CHEMICAL】 Lubricant
【MANUFACTURER NAME】 Kanto Kasei Ltd.
【MANUFACTURER ADDRESS】 1-8-1, Marunouchi, Chiyoda-ku, Tokyo JAPAN, 100-0005
【DIVISION】 Chemical Safety Division
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2. HAZARDS IDENTIFICATION

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Label elements

Signal word : Not applicable.
 Symbols : Not applicable.
 Pictograms : Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

DISTINCTION
 (SINGLE PRODUCT/MIXTURE) : Mixture
 CHEMICAL NAME : Dry film lubricant
 COMPOSITION : Fluorinated solvent Min. 97wt%
 : Solid lubricants 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 person to fresh air.
 If you feel unwell, get medical attention.
 IF ON SKIN : Wash with soap and water.
 IF IN EYES : Flush with large amounts of water.
 Remove contact lenses if easy to do. Continue rinsing.
 IF SWALLOWED : Rinse mouth.
 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

EXTINGUISHING MEDIA : Material will not burn. Use a fire fighting agent suitable for the surrounding fire.
 PECULIAR HAZARD STATEMENT : Exposure to extreme heat can give rise to thermal decomposition.
 HAZARDOUS DECOMPOSITION : Carbon monoxide, Carbon dioxide

PROTECTION OF THE PERSON
EXTINGUISHES FIRE

: When firefighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

: Evacuate area. Ventilate the area with fresh air.
: For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice.
: Observe precautions from other sections.

ENVIRONMENTAL PRECAUTIONS

: Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

METHODS FOR CONTAINMENT
AND CLEANING UP

: Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material.
: Mix in sufficient absorbent until it appears dry.
: Collect as much of the spilled material as possible.
: Place in a closed container approved for transportation by appropriate authorities.
: Clean up residue with an appropriate solvent selected by a qualified and authorized person.
: Ventilate the area with fresh air.
: Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

7. HANDLING AND STORAGE

HANDLING

: Do not breathe thermal decomposition products.
: Avoid skin contact with hot material.
: For industrial or professional use only.
: Do not eat, drink or smoke when using this product.
: Wash thoroughly after handling.
: Avoid release to the environment.
: Avoid contact with oxidizing agents
(ex. chlorine, chromic acid etc.)

STORAGE

: Store in a well-ventilated place.
: Keep container tightly closed.
: Store away from heat, acids, strong bases, oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EQUIPMENT MEASURES

: Provide appropriate local exhaust when product is heated.
: Use general dilution ventilation and/or local exhaust.
: If ventilation is not adequate, use respiratory protection equipment.

MANAGEMENT CONCENTRATION

: Not established

ALLOWABLE CONCENTRATION

: TWA:200 ppm

PROTECTION

RESPIRATORY PROTECTION	: If necessary, wear hazard mask.
EYE PROTECTION	: Safety Glasses with side shields
HAND PROTECTION	: Select and use gloves and/or protective clothing : Gloves made from the following material(s) are recommended: Nitrile Rubber
SKIN PROTECTION	: Select and use body protection to prevent contact based on the results of an exposure assessment. : The following protective clothing material(s) are recommended: Apron – Nitrile
THERMAL HAZARDS	: Wear heat insulating gloves when handling hot material to prevent thermal burns.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	: Liquid
COLOR	: Light gray
ODOR	: Slightly odor
p H	: Not applicable
MELTING POINT/FREEZING POINT	: Approx. -138°C
INITIAL BOILING POINT AND BOILING	: 75~80°C
FLASH POINT	: No flash point
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	: Not applicable
VAPOR PRESSURE	: Approx. 109 mmHg (25°C)
VAPOR DENSITY	: Approx. 9.1 (0°C)
RELATIVE DENSITY (WATER=1)	: Approx. 1.43
SOLUBILITY	: Water : Nil Other solvent : No Data Available
AUTO-IGNITION TEMPERATURE	: Approx. 375 °C
DECOMPOSITION TEMPERATURE	: Not applicable
VISCOSITY	: Approx. 0.4 centistoke

* These data except for appearance are about a solvent.

10. STABILITY AND REACTIVITY

REACTIVITY	: This material is considered to be non-reactive under normal use conditions.
STABILITY	: Stable.
POSSIBILITY OF HAZARDOUS REACTIONS	: Hazardous polymerization will not occur.
CONDITIONS TO AVOID	: None known.
INCOMPATIBLE MATERIALS	: Strong acids, Strong bases, Strong oxidizing agents
HAZARDOUS DECOMPOSITION PRODUCTS	: PFIB, HF
OTHER	: If the product is exposed to extreme condition of heat from misuse or equipment failure, toxic decomposition products that include hydrogen fluoride and perfluoroisobutylene can occur.

11. TOXICOLOGICAL INFORMATION

A ACUTE TOXICITY	: Oral : Rat: LD50 > 2,000 mg/kg Inhalation(vapor) : Rat: LC50 4hr > 989 mg/l
SKIN CORROSION/IRRITATION	: Rabbit: No significant irritation

SERIOUS EYE DAMAGE/
IRRITATION : Rabbit: No significant irritation
RESPIRATORY OR SKIN
SENSITIZATION : Guinea Pig :Not classified
GERM CELL MUTAGENICITY : In Vitro :Not mutagenic
In vivo :Not mutagenic
CARCINOGENICITY : No data available
REPRODUCTIVE TOXICITY : Not classified for development
STOT-single exposure : respiratory irritation :Not classified
STOT-repeated exposure : Not classified
ASPIRATION HAZARD : 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

Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/
international regulations.

- : Dispose of waste product in a permitted industrial waste facility. Combustion products will include HF. Facility must be capable of handling halogenated materials.
- : Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations.
- : Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

14. TRANSPORT INFORMATION

Not regulated per U.S. DOT, IATA or IMO.

INTERNATIONAL 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

EPCRA 311/312 Hazard Classifications : Physical Hazards : Not applicable
Health Hazards : Not applicable

16. OTHER INFORMATION

Please read the SDS well before use.

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 MEASURES 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.