SAFETY DATA SHEET

DATE OF ISSUE/LAST REVISION : April 26, 2017

OUR REF No. Ⅲ-608

1. IDENTIFICATION OF THE PRODUCT AND OF THE SUPPLIER

【PRODUCT NAME】 HANARL FL-4348E-1
【USE OF THE CHEMICAL】 Lubricant
【MANUFACTURER/SUPPLIER】 Kanto Kasei Ltd.
【SUPPLIER'S ADDRESS】 1-8-1, Marunouchi, Chiyoda-ku, Tokyo JAPAN, 100-0005
【DIVISION】 Environmental quality assurance
【PHONE NUMBER】 TEL: 03(3218)7111 FAX: 03(3218)7100
【E-MAIL】 info@kanto-kasei.com

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 90～99wt%
: Fluoric oil 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 : No data available
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℃ 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 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
	: 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	: Milky white
ODOR	: Slightly ether odor
pH	: No data
MELTING POINT/FREEZING POINT	: Approx.-135℃
INITIAL BOILING POINT AND BOILING	: 60～65℃
FLASH POINT	: Not applicable Does not flash
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 ℃
DECOMPOSITION TEMPERATURE	: No data
VISCOSITY	: Approx. 0.001 Pa-s(23℃)

* 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		: Oral : rat LD_{50} > 5000mg/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

(EC)1005/2009	: Not regulated
(EC) 649/2012	: Not regulated
(EC)1907/2006 TITLE Ⅶ	: Not regulated
(EC)1907/2006 TITLE Ⅷ	: Not regulated
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.