**MATERIAL SAFETY DATA SHEET**

**\* 1 - Preparation and company identification**

Identification of the preparation Lubricant for hybrid compressor HFO 1234YF 250ML

 11.084YF

 Preparation use Lubricant for refrigeration and air conditioning systems.

Company: ELKE S.r.l. Via XXV Aprile 202 10042 Nichelino (To) Italia.

 Tel. n. +39 011 9622412

Emergency telephone Centro Antiveleni Ospedale Niguarda Milano +39 02.66101029

Business references Domenico Amosso info@elke-ac.com

**2 - Hazards identification**

Not dangerous good.

Main risks to health/environment

Hazards

No particular risks in normal working conditions. We recommend, however, to keep normal personal hygiene and to avoid frequent and prolonged contact. Use according to good working practice avoiding to disperse the product in the environment.

The substance is not regarded as hazardous according to the Directive

1272/2008/CE.

**3 - Composition / Information on ingredients**

The preparation does not contain any substance that require the declaration in accordance with regulamentation CE 1272/2008.

Components information

Chemical composition

**\* 4 - First aid measures**

The content of DMSO extract, determined with the IP 346/92 method is lower than

3% in weight.

Synthetic lubricants based on polyol esters.

First aid measures required to treat the symptoms.

Inhalation

Contact with the skin Contact with the eyes Ingestion

In case of exposure to high concentration of vapours or fogs move the person from contaminated area to well ventilated place. Seek medical assistance if necessary. If you suspect inhalation, urgently go to hospital.

Remove contaminated clothes and wash with soap and plenty of water. If irritation persist, get medical attention.

Immediately flush eyes with plenty of water for a few minutes while keeping eyelids open. Get medical attention.

Do not induce vomit to avoid aspiration through the respiratory tract. Get medical attention.

**MATERIAL SAFETY DATA SHEET**

**5 - Fire-fighting measures**

Fire-fighting equipment

Inappropriate extinguishers

Specific dangers in case of exposition to the chemicals, its combustion products or gases

Nebulized water, carbon dioxide, alcohol-resistant foam, chemical extinguishing. Contaminated water must be disposed of in accordance with official regulations.

Do not use direct water jets. Use water jets just to cool down surfaces exposed to fire.

Avoid breathing combustion fumes that, in case of fire, can form carbon monoxide fuel gases, carbon dioxide and unburnt hydrocarbon fumes.

Specific protective equipment Wear protective overalls with self-breathing equipment. for fire-fighting personnel

**6 - Accidental release measures**

Person - related safety precautions

Environmental precautions

Decontamination procedures

Wear gloves, protecting clothes and glasses. In case of indoors significant spill avoid to breathe vapours by ventilating the area or by wearing breath protecting

equipment. Remove possible ignition sources.

Avoid to disperse the product in ground, into sewers and into surface waters. If necessary inform local authorities.

In case of significant spillage, stem and transfer product to suitable containers. Spillage on ground: stem spilled product with soil or sand, clean up spilled product and dispose according to local regulations. Spillage in water: stem immediately the spillage. Mechanically remove spilled product from the surface.

**7 - Handling and storage**

Handling

Storage

Empty containers

Avoid direct contacts with the product. Avoid breathing aerosol or product mist guaranteeing a suitable ventilation in working areas. Do not smoke and avoid any contact with ignition sources. Keep containers closed when not used.

Keep the product in original containers. Storage in a fresh place, away from heating sources and direct sun exposition. Avoid to accumulate electrostatic charge. Keep closed and covered the containers to avoid infiltrations of rain. Maintain suitable ventilation of the work place.

The containers contain product residues. Dispose the containers in safe ecological way according to the local regulations.

**\* 8 - Exposure controls / personal protection**

According to data in our possession, any component presents no exposure limits in working place.

Exposure control

Breathing equipment

Hands and skin protection

Eyes protection

Avoid the formation of hazes or aerosol and use engineering controls, ventilation or localized aspiration if necessary.

Not necessary under normal working conditions.

Wear gloves and protective overalls; change immediately contaminated clothes and wash them thoroughly before use. We recommend to keep normal personal hygiene and of working clothes. Wear gloves only after having thoroughly washed your hands.

Wear safety protective glasses where it is possible to be in contact with the product.

**MATERIAL SAFETY DATA SHEET**

**\* 9 - Physical and chemical properties**

Physical status- : Colour- :

Odour- :

pH :

Water Solubility- : Density at 15°Ckg/l :

Kinematic Viscosity at 40°CcSt : Flash Point (C.O.C.)°C :

Pour Point°C :

**10 - Stability and reactivity**

Mat white liquid

colourless

characteristic

Not applicable

Insoluble

0,957 kg/l

>240

-37

Reactivity and materials to avoid

Stability

Avoid contacts with strong acid, strong bases and oxidation agents. Avoid extreme heat and high energy sources of ignition.

Stable product in normal applications.

**\* 11 - Toxicological information**

Skin contact

Eyes contact

Oral toxicity

Inhalation

Frequent and prolonged contacts may irritate the skin and cause dermatitis.

It can cause burning sensation or transitory redness.

The product if swallowed can irritate the digestive apparatus and induce vomiting, cause nausea and diarrhea.

Long term exposure to the product mist can cause irritation to the respiratory system.

**\* 12 - Ecological information**

Mobility Degradability Accumulation Ecotoxicity

Not determined. Not determined. Not determined.

In compliance with EEC Regulations the product is not regarded as hazardous to the environment.

**13 - Disposal considerations**

General information

Disposal

Do not dispel the environment. Comply with the current laws.

Avoid to disperse the product on ground, into sewers and surface waters. Discharge the exhausted products and the containers through the authorized industries in compliance with the state and local regulations for disposal of this type of waste.

**14 - Transport information**

ADR-Classe: Not dangeorus

IATA-Classe: Not dangeorus

IMDG-Classe: Not dangeorus

**Not hazardous for the transport.**

Transport name

Oil for hybrid compressor 1234yf: 11.084YF

**15 - Regulatory information**

Reference Laws

**16 - Other information**

Relevant R and H phrases

This Safety Data Sheet complies with the Regulation 453/2010/EEC.

Regulation (CE) 1272/2008 (GHS/CLP), D.E. 1999/45/CE, 2001/60/CE and related regulations on "Classification, labelling and packaging of substances and mixtures". Refer also to local laws.

**MATERIAL SAFETY DATA SHEET**

Warning

The information presented in this Material Safety Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. The purpose of this data sheet is to inform and assume a correct technological use of the product. ELKE does not take any responsibility resulting from any damage or injury resulting from abnormal use.