

SAFETY DATA SHEET

Compiled in accordance with REACH Regulation (EC) No 1907/2006, as retained and amended in

UK law.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier Product name:

EMKARATE™ RL 220H

- 1.2 Relevant identified uses of the substance or mixture and uses advised against

 Identified uses:
 Refrigeration Lubricants.

 Uses advised against:
 None identified.
- 1.3 Details of the supplier of the safety data sheet
 - Supplier

LUBRIZOL LIMITED
THE KNOWLE, NETHER LANE
HAZELWOOD, DERBYSHIRE, DE56 4AN
GB
(44) 01332-842211
EUSDS@lubrizol.com {Lubrizol Safety Data Sheets can be obtained at www.mylubrizol.com}

1.4 Emergency telephone number:

FOR TRANSPORT EMERGENCY CALL CHEMTREC (+1) 703 527 3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

This product does not meet the classification requirements of the current European legislation.

Classified in accordance with CLP Regulation (EC) No 1272/2008, as retained and amended in UK law.

Not classified

2.2 Label elements in accordance with CLP Regulation (EC) No 1272/2008, as retained and amended in UK law.

Not applicable

2.3 Other hazards: Endocrine Disruption- Toxicity The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Endocrine Disruption- Ecotoxicity

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or



Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Compiled in accordance with CLP Regulation (EC) No 1272/2008, as retained and amended in UK law.

This material has no known hazards under applicable laws.

See Section 15 for Regulation (EC) No. 1907/2006 REACH Article 59(1). Candidate List (Substances of Very High Concern (SVHC))

1 Description of first aid Inhalation:	measures Remove exposed person to fresh air if adverse effects are observed.
Eye contact:	Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses.
Skin Contact:	Wash with soap and water. If skin irritation occurs, get medical attention.
Ingestion:	Treat symptomatically. Get medical attention.
2 Most important symptoms and effects both acute and delayed	

Treatment: Treat symptomatically.

SECTION 5: Firefighting measures

	General Fire Hazards:	No unusual fire or explosion hazards noted.	
5.1	Extinguishing media Suitable extinguishing media:	CO2, dry chemical, foam, water spray, water fog.	
	Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.	



procedures:

5.2 Special hazards arising from the substance or mixture:
 5.3 Advice for firefighters Special fire fighting
 A solid stream of water will spread the burning material. Material creates a special hazard because it floats on water. See section 10 for additional information. Water may cause splattering. Container may rupture on heating.

Special protective Recommend wearing self-contained breathing apparatus. **equipment for fire-fighters:**

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Personal Protective Equipment must be worn, see Personal Protection Section for PPE recommendations. Ventilate area if spilled in confined space or other poorly ventilated areas.
6.2 Environmental Precautions:	Avoid release to the environment. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages. Prevent further leakage or spillage if safe to do so.
6.3 Methods and material for containment and cleaning up:	Dike far ahead of larger spill for later recovery and disposal. Pick up free liquid for recycle and/or disposal. Residual liquid can be absorbed on inert material. Spilled liquid and dried film are slippery. Use care to avoid falls.
6.4 Reference to other sections:	See sections 8 and 13 for additional information.

SECTION 7: Handling and storage:

7.1 Precautions for safe handling:	Observe good industrial hygiene practices. Provide adequate ventilation. Wear appropriate personal protective equipment.	
Maximum Handling Temperature:	Not determined.	
7.2 Conditions for safe storage, including any incompatibilities:	Store away from incompatible materials. See section 10 for incompatible materials.	
Maximum Storage Temperature:	Not determined.	
7.3 Specific end use(s):	End uses are listed in an attached exposure scenario when one is required.	



SECTION 8: Exposure controls/personal protection

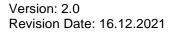
8.1 Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.

8.2 Exposure controls

Appropriate engineering controls:	Use material in well ventilated area only. Adequate ventilation should be provided so that exposure limits are not exceeded. Mechanical ventilation or local exhaust ventilation may be required. No special requirements under ordinary conditions of use and with adequate ventilation.
Individual protection measu General information:	res, such as personal protective equipment Please follow the recommended personal protective equipment (PPE) guidelines below and refer to the appropriate EN standard where applicable. Use personal protective equipment as required.
Eye/face protection:	If contact is likely, safety glasses with side shields are recommended. Eye protection should meet the standards set out in EN 166.
Skin protection Hand Protection:	Suitable gloves can be recommended by the glove supplier.
General:	Because specific work environments and material handling practices vary, safety procedures should be specific for each intended application. The correct choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Most gloves provide protection for only a limited time before they must be discarded and replaced (even the best chemically resistant gloves will break down after repeated chemical exposures). Gloves should be chosen in consultation with the supplier / manufacturer and taking account of a full assessment of the working conditions. For typical use and handling of chemical substances, gloves should meet the standards set out in EN 374. For applications involving mechanical risks with potential for abrasion or puncture, the standards set out in EN 388 should be considered. For tasks involving thermal hazards, the standards set out in EN 407 should be considered.





Break-through time:	Breakthrough time data are generated by glove manufacturers under laboratory test conditions and represent how long a glove can be expected to provide effective permeation resistance. It is important when following breakthrough time recommendations that actual workplace conditions are taken into account. Always consult with your glove supplier for up-to-date technical information on breakthrough times for the recommended glove type. For continuous contact, we suggest gloves with a minimum breakthrough time of 240 minutes, or > 480 minutes if suitable gloves can be obtained. If suitable gloves are not available to offer that level of protection, gloves with shorter breakthrough times may be acceptable as long as appropriate glove maintenance and replacement regimes are determined and adhered to. For short-term, transient exposures and splash protection, gloves with shorter breakthrough times may commonly be used. Therefore, appropriate maintenance and replacement regimes must be determined and rigorously followed.
Glove thickness:	For general applications, we recommend gloves with a thickness typically greater than 0.35 mm. It is important to note that glove thickness is not the only predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times. Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task. Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example: Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, before being disposed of. Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.
Other:	Long sleeve shirt is recommended.
Respiratory Protection:	Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites. Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. A respiratory protection program compliant with all applicable regulations must be followed whenever workplace conditions require the use of a respirator.



	Respiratory Protective Equipment (RPE) is not normally required where there is adequate natural or local exhaust ventilation to control exposure. In case of insufficient ventilation, wear suitable respiratory equipment. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions. Please refer to the relevant EN standards for the RPE selected.
Hygiene measures:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.
Environmental Controls:	No data available. See section 6 for details.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	
Physical state:	liquid
Form:	liquid
Color:	Clear
Odor:	Mild
Odor Threshold:	No data available.
pH:	Not applicable
Freezing point:	No data available.
Boiling Point:	No data available.
Flash Point:	290 °C (Cleveland Open Cup)
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or expl	osive limits
Flammability Limit - Upper (%):	No data available.
Flammability Limit - Lower (%):	No data available.
Vapor pressure:	No data available.
Relative vapor density:	No data available.
Relative density:	0.973 - 0.979 (20 °C)
Solubility(ies)	
Solubility in Water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Autoignition Temperature:	No data available.
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Decomposition Temperature: Viscosity: Explosive properties: Oxidizing properties: VOC Content:	No data available. 230mm2/s (40 °C); 19.5mm2/s (100 °C) No data available. No data available. No data available.
Particle characteristics	
Particle Size:	Not applicable
Particle Size Distribution:	Not applicable
Specific surface area:	Not applicable
Surface charge/Zeta potential:	Not applicable
Assessment:	Not applicable
Shape:	Not applicable
Crystallinity:	Not applicable
Surface treatment:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity:	No data available.
10.2 Chemical Stability:	Material is stable under normal conditions.
10.3 Possibility of hazardous reactions:	Will not occur.
10.4 Conditions to avoid:	Do not expose to excessive heat, ignition sources, or oxidizing materials.
10.5 Incompatible Materials:	Strong oxidizing agents. Strong acids. Strong bases.
10.6 Hazardous Decomposition Products:	Thermal decomposition or combustion may generate smoke, carbon monoxide, carbon dioxide, and other products of incomplete combustion.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation:	No data available.
Ingestion:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.



11.1 Information on toxicological effects	
Acute toxicity Oral Product:	Not classified for acute toxicity based on available data.
Dermal Product:	Not classified for acute toxicity based on available data.
Inhalation Product:	Not classified for acute toxicity based on available data.
Skin Corrosion/Irritation: Product:	Remarks: Not classified as a primary skin irritant.
Serious Eye Damage/Eye Irritation: Product:	Remarks: Not classified as a primary eye irritant.
Respiratory sensitization:	No data available
Skin sensitization:	No data available
Specific Target Organ Toxicity - Sir	n gle Exposure: No data available
Aspiration Hazard:	No data available
Chronic Effects Carcinogenicity:	No data available
Germ Cell Mutagenicity:	No data available
Reproductive toxicity:	No data available
Specific Target Organ Toxicity - Re No data available	peated Exposure:
11.2 Information on health hazards Other hazards Product:	No data available.
Endocrine Disruption Product:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or



Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.;

SECTION 12: Ecological information		
12.1 Ecotoxicity Fish		
	No data available	
Aquatic Invertebrates	No data available	
Toxicity to Aquatic Plants	No data available	
Toxicity to soil dwelling organism	ns No data available	
Sediment Toxicity	No data available	
Toxicity to Terrestrial Plants	No data available	
Toxicity to Above-Ground Organi	sms No data available	
Toxicity to microorganisms	No data available	
12.2 Persistence and Degradability Biodegradation		
	No data available	
BOD/COD Ratio	No data available	
12.3 Bioaccumulative potential Bioconcentration Factor (BCF)		
	No data available	
Partition Coefficient n-octanol / w	vater (log Kow) No data available	
12.4 Mobility:	No data available	
12.5 Results of PBT and vPvB assessme	nt No data available	
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12.6 Endocrine Disruption:

Product:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Disposal methods:Treatment, storage, transportation, and disposal must be in accordance
with applicable Federal, State/Provincial, and Local regulations.
Since emptied containers retain product residue, follow label warnings even
after container is emptied.

Contaminated Packaging: Container packaging may exhibit hazards.

SECTION 14: Transport information

ADR

Not regulated.

IMDG

Not regulated.

ΙΑΤΑ

Not regulated.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code None known.

Shipping descriptions may vary based on mode of transport, quantities, temperature of the material, package size, and/or origin and destination. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. For transportation, steps must be taken to prevent load shifting or materials falling, and all relating legal statutes should be obeyed. Review classification requirements before shipping materials at elevated temperatures.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

EU Regulations EU. Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex I, Controlled Substances:

None present or none present in regulated quantities.



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EU. Regulation 2019/1021/EU on persistent organic pollutants (POPs) (recast), as amended: None present or none present in regulated quantities.

EU. Chemicals Subject to PIC Procedure: Regulation 649/2012/EU on export and import of dangerous chemicals, as amended:

None present or none present in regulated quantities.

Regulation (EC) No. 1907/2006, REACH Article 59(1). Candidate List:

None present or none present in regulated quantities.

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:

None present or none present in regulated quantities.

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:

None present or none present in regulated quantities.

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work.:

None present or none present in regulated quantities.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.:

None present or none present in regulated quantities.

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I:

None present or none present in regulated quantities.

EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants:

None present or none present in regulated quantities.

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:

None present or none present in regulated quantities.

Inventory Status

Australia (AIIC)

All components are in compliance with chemical notification requirements in Australia.

Canada (DSL/NDSL)

All substances contained in this product are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List (DSL) or are exempt.

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China (IECSC)

All components of this product are listed on the Inventory of Existing Chemical Substances in China.

European Union (REACh)

To obtain information on the REACH compliance status of this product, please e-mail REACH@SDSInquiries.com.

Great Britain (UK REACH)

To obtain information on the UK REACH compliance status of this product, please e-mail REACH@SDSInquiries.com.

Japan (ENCS)

All components are in compliance with the Chemical Substances Control Law of Japan.

Korea (ECL)

All components are in compliance in Korea.

New Zealand (NZIoC)

All components are in compliance with chemical notification requirements in New Zealand.

Philippines (PICCS)

All components are in compliance with the Philippines Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (R.A. 6969).

Switzerland (SWISS)

All components are in compliance with the Environmentally Hazardous Substances Ordinance in Switzerland.

Taiwan (TCSCA)

All components of this product are listed on the Taiwan inventory.

Turkey (KKDIK)

To obtain information on the KKDIK compliance status of this product, please e-mail REACH@SDSInquiries.com.

United States (TSCA)

All substances contained in this product are listed on the TSCA inventory or are exempt.

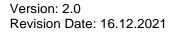
The information that was used to confirm the compliance status of this product may deviate from the chemical information shown in Section 3.

15.2 Chemical safety No Chemical Safety Assessment has been carried out. **assessment:**

SECTION 16: Other information

Key literature references and Internal company data and other publically available resources. sources for data:

Wording of the H-statements in section 2 and 3: none





none

Other information:

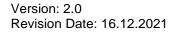
Abbreviations and acronyms:

ACGIH – American Conference of Governmental Industrial Hygienist ADR - International Carriage of Dangerous Goods by Road AICS - Australian Inventory of Chemical Substances ATEmix - Acute Toxicity Estimate for the mixture BCF - Bio concentration factor DMSO - Dimethyl sulfoxide **DSL** - Domestic Substance List EC50 - Effective concentration that gives a response in 50% of the population ECHA - European Chemical Agency ECL - Existing Chemical List **ENCS - Existing and New Chemical Substances** EPA – Environmental Protection Agency IARC - International Agency for Research on Cancer IATA - International Air Transport Association **IECSC - Inventory of Existing Chemical Substances** IMDG - International Maritime Dangerous Goods IP 346 - A gravimetric assay used to determine the percentage weight of polycyclic aromatics in oil, via a DMSO extraction technique LC50 - Lethal concentration required to kill 50% of the population MARPOL - International Conventions for the Prevention of Pollution from Ships NDSL - Non Domestic Substance List NOAEC - No observed adverse effect concentration NOAEL - No observed adverse effect level NOEC - No observed effective concentration NTP - National Toxicology Program NZloc - New Zealand Inventory of chemicals OECD TG - Organization for Economic Cooperation and Development Test Guidelines OSHA - Occupational, Safety, and Health Administration PBT - Persistent bioaccumulative toxic chemical PEL – Permissible Exposure Level PICCS - Philippine Inventory of Chemicals and Chemical Substances **PPE - Personal Protective Equipment** PRTR - Pollutant Release and Transfer Register REACH - Registration, Evaluation, Authorization & restriction of Chemicals SVHC - Substance of Very High Concern SWISS - Switzerland chemical ordinance **TCSCA - Toxic Chemical Substance Control Act** TLV – Threshold Limit Value **TSCA - Toxic Substances Control Act** TWA – Time Weighted Average

vPvB – very Persistent very Bioaccumulative

Issue Date:

16.12.2021





Disclaimer:

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user.

Reference to Regulation (EC) No. 1907/2006 (EU REACh), including but not limited to EU REACh registration numbers is provided for informational purposes only. UK REACH (EU Exit Regulation as amended) data and information will be provided as it becomes available.