

# SAFETY DATA SHEET

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

### 1.1 Product identifier

Product name: **EMKARATE(TM) RL 2000**

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

Identified uses: Not determined.

Uses advised against: Not determined.

### 1.3 Details of the supplier of the safety data sheet

#### Supplier

Company Name: LUBRIZOL LIMITED  
THE KNOWLE, NETHER LANE  
Address: THE KNOWLE, NETHER LANE  
HAZELWOOD, DERBYSHIRE, DE56 4AN  
GB  
Telephone: (44) 01332-842211  
E-mail contact: 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 (LUBRIZOL)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

#### Classification according to Regulation (EC) No 1272/2008 as amended.

Chronic hazards to the aquatic environment      Category 3      H412: Harmful to aquatic life with long lasting effects.

#### Classification according to Directive 67/548/EEC or 1999/45/EC as amended.

R52/53

The full text for all R-phrases is displayed in section 16.

### 2.2 Label elements according to Regulation (EC) No 1272/2008 as amended

Signal Words: not applicable

Hazard Statement(s): H412: Harmful to aquatic life with long lasting effects.

#### Precautionary Statement

Disposal: P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

#### Supplemental label information

not applicable

2.3 Other hazards: None identified.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Regulation No. 1272/2008.

Chemical name	Concentration	EC No.	REACH Registration No.	M-Factor:	Notes
Tricresylphosphate	1.0 - 10%	215-548-8	Not available.		

600, 700 and 900 ECHA List Numbers do not have any legal significance; rather they are purely technical identifiers and are displayed for informational purposes only.

#### Classification Regulation No. 1272/2008.

Chemical name	Classification	Notes
Tricresylphosphate	Repr. 2; H361 Aquatic Chronic 1; H410 Aquatic Acute 1; H400	

#### Directive 67/548/EEC.

Chemical name	Concentration	EC No.	REACH Registration No.	M-Factor:	Notes
Tricresylphosphate	1.0 - 10%	215-548-8	Not available.		

600, 700 and 900 ECHA List Numbers do not have any legal significance; rather they are purely technical identifiers and are displayed for informational purposes only.

#### Classification Directive 67/548/EEC.

Chemical name	Classification	Notes
Tricresylphosphate	N; R50/53 Repr. 3; Xn; R62	

The full text for all R-phrases is displayed in section 16.

## SECTION 4: First aid measures

**General:** IF exposed or concerned: Get medical advice/attention.

### 4.1 Description of first aid measures

**Inhalation:** 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. Launder contaminated clothing before reuse.

**Ingestion:** Treat symptomatically. Get medical attention.

**4.2 Most important symptoms and effects, both acute and delayed:** See section 11.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Hazards:** No data available.

**Treatment:** Treat symptomatically.

## SECTION 5: Firefighting measures

**General Fire Hazards:** No unusual fire or explosion hazards noted.

<b>5.1 Extinguishing media</b>	
<b>Suitable extinguishing media:</b>	CO <sub>2</sub> , dry chemical, foam, water spray, water fog.
<b>Unsuitable extinguishing media:</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>5.2 Special hazards arising from the substance or mixture:</b>	Water may cause splattering. Container may rupture on heating. 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.
<b>5.3 Advice for firefighters</b>	
<b>Special fire fighting procedures:</b>	No data available.
<b>Special protective equipment for fire-fighters:</b>	Wear full protective firegear including self-containing breathing apparatus operated in the positive pressure mode with full facepiece, coat, pants, gloves and boots.

## SECTION 6: Accidental release measures

<b>6.1 Personal precautions, protective equipment and emergency procedures:</b>	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.
<b>6.2 Environmental Precautions:</b>	Avoid release to the environment. Prevent further leakage or spillage if safe to do so.
<b>6.3 Methods and material for containment and cleaning up:</b>	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.
<b>6.4 Reference to other sections:</b>	See sections 8 and 13 for additional information.

## SECTION 7: Handling and storage:

<b>7.1 Precautions for safe handling:</b>	Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Observe good industrial hygiene practices. Provide adequate ventilation. Use personal protective equipment as required. Launder contaminated clothing before reuse. Avoid environmental contamination. Keep containers closed when not in use. Avoid eye contact. Avoid repeated or prolonged skin contact. Avoid drinking, tasting, swallowing or ingesting this product. Avoid breathing dust, fume, gas, mist, vapors or spray. Wash thoroughly after handling.
<b>Maximum Handling Temperature:</b>	Not determined.
<b>7.2 Conditions for safe storage, including any incompatibilities:</b>	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.

#### Individual protection measures, such as personal protective equipment

**General information:** Use personal protective equipment as required.

**Eye/face protection:** If contact is likely, safety glasses with side shields are recommended.

#### Skin protection

**Hand Protection:** Neoprene. Consult clothing/glove manufacturer to determine appropriate type of glove for given situation. Gloves should always be inspected before each use and discarded if they show tears, pinholes, or signs of wear. Use good industrial hygiene practices to avoid skin contact. If contact with the material may occur wear chemically protective gloves.

**Other:** Long sleeve shirt is recommended. Gloves, coveralls, apron, boots as necessary to minimize contact.

**Respiratory Protection:** Use respirator with a combination organic vapor and high efficiency filter cartridge if recommended exposure limit is exceeded. 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.

**Hygiene measures:** Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

**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

<b>Physical state:</b>	liquid
<b>Form:</b>	liquid
<b>Color:</b>	Colorless to yellow
<b>Odor:</b>	Mild
<b>Odor Threshold:</b>	No data available.

<b>pH:</b>	No data available.
<b>Freezing point:</b>	-45 °C
<b>Boiling Point:</b>	No data available.
<b>Flash Point:</b>	254 °C (Cleveland Open Cup)
<b>Evaporation Rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability Limit - Upper (%):</b>	No data available.
<b>Flammability Limit - Lower (%):</b>	No data available.
<b>Vapor pressure:</b>	< 0.1 kPa (20 °C)
<b>Vapor density (air=1):</b>	No data available.
<b>Relative density:</b>	0.962 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in Water:</b>	Insoluble in water
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Autoignition Temperature:</b>	No data available.
<b>Decomposition Temperature:</b>	No data available.
<b>Viscosity:</b>	62 mm <sup>2</sup> /s (40 °C); 8.5 mm <sup>2</sup> /s (100 °C )
<b>Explosive properties:</b>	No data available.
<b>Oxidizing properties:</b>	No data available.
<b>VOC Content:</b>	No data available.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity:</b>	No data available.
<b>10.2 Chemical Stability:</b>	Material is stable under normal conditions.
<b>10.3 Possibility of Hazardous Reactions:</b>	Will not occur.
<b>10.4 Conditions to Avoid:</b>	Do not expose to excessive heat, ignition sources, or oxidizing materials.
<b>10.5 Incompatible Materials:</b>	Strong oxidizing agents. Strong acids. Strong bases.
<b>10.6 Hazardous Decomposition Products:</b>	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

<b>Inhalation:</b>	No data available.
<b>Ingestion:</b>	No data available.
<b>Skin Contact:</b>	No data available.
<b>Eye contact:</b>	No data available.

## 11.1 Information on toxicological effects

### Acute toxicity

#### Oral

Product: Not classified for acute toxicity based on available data. Ingestion of this material may cause gastric disturbances. Ingestion of this material can result in neurotoxicity. Signs and symptoms include increased sweating of hands and feet, numbness, tingling and weakness in extremities, unsteady gait and decreased reflexes.

#### Dermal

Product: Skin absorption of components of this material will cause systemic effects; note toxicity in other sections.  
Not classified for acute toxicity based on available data.

#### Inhalation

Product: Not classified for acute toxicity based on available data. High concentrations may cause headaches, dizziness, fatigue, nausea, vomiting, drowsiness, stupor, other central nervous system effects leading to visual impairment, respiratory failure, unconsciousness and death.

#### Skin Corrosion/Irritation:

Product: Prolonged or repeated skin contact as from clothing wet with material may cause dermatitis. Symptoms may include redness, edema, drying, and cracking of the skin.  
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 - Single Exposure:

Tricresylphosphate If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.

#### Aspiration Hazard:

No data available

### Chronic Effects

#### Carcinogenicity:

No data available

#### Germ Cell Mutagenicity:

No data available

#### Reproductive toxicity:

Tricresylphosphate Suspected of damaging fertility. This material has been shown to impair fertility and cause adverse reproductive effects in rats and mice.

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This material has been shown to impair fertility and cause adverse reproductive effects in rats and mice.

**Specific Target Organ Toxicity - Repeated Exposure:**

Tricresylphosphate Repeated occupational exposure to tricresyl phosphate over a prolonged period of time may cause delayed neurotoxicity characterized by ataxia and tremors.

**SECTION 12: Ecological information**

**12.1 Ecotoxicity**

**Fish**

Tricresylphosphate LC 50 (Rainbow Trout, 4 Days): 0.6 mg/l  
NOEC (Rainbow Trout, 4 Days): 0.56 mg/l

**Aquatic Invertebrates**

Tricresylphosphate EC 50 (Water flea (Daphnia magna), 2 d): 0.146 mg/l

**Toxicity to Aquatic Plants**

Tricresylphosphate EC 50 (Alga, 3 Days): 0.4042 mg/l

**Toxicity to soil dwelling organisms**

No data available

**Sediment Toxicity**

No data available

**Toxicity to Terrestrial Plants**

No data available

**Toxicity to Above-Ground Organisms**

No data available

**Toxicity to microorganisms**

Tricresylphosphate LC 50 (Sludge, 0.1 Days): > 1,000 mg/l

**12.2 Persistence and Degradability**

**Biodegradation**

Tricresylphosphate Oxygen depletion 24.2 % (28 d, OECD TG 301 D)

**BOD/COD Ratio**

No data available

**12.3 Bioaccumulative Potential**

**Bioconcentration Factor (BCF)**

No data available

**Partition Coefficient n-octanol / water (log Kow)**

Tricresylphosphate Log Kow: 5.93 (Measured)

**12.4 Mobility:**

No data available



## 12.5 Results of PBT and vPvB assessment

No data available

## 12.6 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. Dispose of packaging or containers in accordance with local, regional, national and international regulations. Empty container contains product residue which may exhibit hazards of product.

**Contaminated Packaging:** Container packaging may exhibit hazards.

## SECTION 14: Transport information

### ADR

Not regulated.

### IMDG

Not regulated.

### IATA

Not regulated.

### 14.7 Transport in bulk according to Annex II of MARPOL73/78 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.:

#### Inventory Status

##### Australia (AICS)

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

##### Canada (DSL/NDSL)

All components are in compliance with the Canadian Environmental Protection Act and are present on the Domestic Substances List.

##### 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 visit [Lubrizol.com/REACH](http://Lubrizol.com/REACH), or e-mail us at [REACH\\_MSDS\\_INQUIRIES@Lubrizol.com](mailto:REACH_MSDS_INQUIRIES@Lubrizol.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.

**United States (TSCA)**

All components of this material are on the US TSCA Inventory.

*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 assessment:**

No Chemical Safety Assessment has been carried out.

**SECTION 16: Other information**

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

**Wording of the R-phrases and H-statements in section 2 and 3**

H361	Suspected of damaging fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62	Possible risk of impaired fertility.

**Issue Date:** 23.03.2015

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