

**LOCTITE**A  Company

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**Material Safety Data Sheet**

According to 91/155 EEC

Printing date 21.01.2005

Reviewed on 26.10.2004



**1 Identification of substance:**

- **Product details:**
- **Trade name:** Frekote PMC
- **Article number:** FK1360
- **Application of the substance / the preparation**  
Mould release agent  
Solvents
- **Manufacturer/Supplier:**  
Henkel Loctite Adhesives Ltd.  
Kelsey House, Wood Lane End  
Hemel Hempstead, Herts. HP2 4RQ, U.K.  
Tel. +44 (0)1442 233 233, Fax +44 (0)1442 269 554
- **Informing department:** Product Safety & Regulatory Affairs (PS/RA) - see section 16.

**2 Composition/Data on components:**

- **Chemical characterization**
  - **Description:**  
Solvent mixture with additives.  
Mixture of the substances listed below with harmless additions.
  - **Dangerous components:**
- |  |        |
|--|--------|
| CAS: 108-88-3    toluene               | 30-60% |
| EINECS: 203-825-9 Xn, F; R 11-20       |        |
| <br>                                   |        |
| CAS: 78-93-3    2-butanone             | 30-60% |
| EINECS: 201-159-0 Xi, F; R 11-36-66-67 |        |
- **Additional information** For the wording of the listed risk phrases refer to section 16.

**3 Hazards Identification**

- **Hazard designation:**
- |   |   |                                  |
|---|---|----------------------------------|
|  |  | Xn Harmful<br>F Highly flammable |
|---|---|----------------------------------|

- **Information pertaining to particular dangers for man and environment**  
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.  
R 11 Highly flammable.  
R 20 Harmful by inhalation.  
R 36 Irritating to eyes.
- **Classification system**  
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

**4 First aid measures**

- **General information**  
Take affected persons out of danger area and instruct to lie down.  
Personal protection for the First Aider.

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### After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact Wash with water and acidic soap.

### After eye contact

Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.

### After swallowing

A person vomiting while lying on their back should be turned onto their side.

Call a doctor immediately.

### Information for doctor

The following symptoms may occur:

Dazed

Breathing difficulty

see section 3.

## 5 Fire fighting measures

### Suitable extinguishing agents

CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fire with alcohol-resistant foam.

For safety reasons unsuitable extinguishing agents Water with a full water jet.

### Special hazards caused by the material, its products of combustion or resulting gases:

Can form explosive gas-air mixtures.

see section 10

### Protective equipment:

Wear full protective suit.

Wear self-contained breathing apparatus.

## 6 Accidental release measures

### Person-related safety precautions:

Keep away from ignition sources

Wear protective equipment. Keep unprotected persons away.

Keep people at a distance and stay on the windward side.

Ensure adequate ventilation

Use breathing protection against the effects of fumes/dust/aerosol.

### Measures for environmental protection:

Do not allow to enter drainage system, surface or ground water.

Prevent from spreading (e.g. by damming-in or oil barriers).

Inform respective authorities in case product reaches water or sewage system.

### Measures for cleaning/collecting:

Collect mechanically.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of contaminated material as waste according to item 13.

Allow material to evaporate.

Ensure adequate ventilation.

Additional information: See Section 7 for information on safe handling

## 7 Handling and storage

### Handling

### Information for safe handling:

Avoid splashes or spray in enclosed areas.

Restrict the quantity stored in the work place.

Ensure that suitable extractors are available on processing machines

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Use solvent-proof equipment.

Wear breathing protection when decanting larger quantities without extractor facilities.

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**Information about protection against explosions and fires:**

- Keep ignition sources away - Do not smoke.
- Do not spray on flames or red-hot objects.
- Use explosion-proof apparatus / fittings and spark-proof tools.
- Protect against electrostatic charges.
- Fumes can combine with air to form an explosive mixture.
- Flammable mixtures may be formed in empty containers.
- Substance/product can reduce the ignition temperature of flammable substances.
- Danger of explosion if fluid enters the drainage system

**Storage**

- Requirements to be met by storerooms and containers:** Prevent any penetration into the ground.
- Information about storage in one common storage facility:** see section 10
- Further information about storage conditions:**
  - Store in cool, dry conditions in well sealed containers.
  - Protect from heat and direct sunlight.
  - Store only outside or in explosion proof rooms.
  - Must be stored in a collecting room.

**8 Exposure controls and personal protection****Additional information about design of technical systems:** No further data; see item 7.**Components with limit values that require monitoring at the workplace:****108-88-3 toluene (30-60%)**

- OES Short-term value: 574 mg/m<sup>3</sup>, 150 ppm
- Long-term value: 191 mg/m<sup>3</sup>, 50 ppm
- Sk

**78-93-3 2-butanone (30-60%)**

- OES Short-term value: 899 mg/m<sup>3</sup>, 300 ppm
- Long-term value: 600 mg/m<sup>3</sup>, 200 ppm
- IOELV, Sk, Bmgv

**Additional information:** The lists that were valid during the compilation were used as basis.**Personal protective equipment****General protective and hygienic measures**

- Avoid contact with the eyes and skin.
- Do not inhale gases / fumes / aerosols.
- Wash hands during breaks and at the end of the work.
- Apply solvent resistant skin protective compounds before beginning work.
- Do not eat, drink or smoke while working.

**Breathing equipment:**

- Use breathing protection in case of insufficient ventilation (acc. to EN 141, EN 143 ...).
- Filter A/P2.

**Protection of hands (EN420, EN388, EN374 etc.):** Impervious gloves**Material of gloves**

Butyl rubber, BR

Fluorocarbon rubber (Viton)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:**

- Tightly sealed safety glasses.
- Face protection

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**Body protection:**

- Impervious protective clothing
- Solvent resistant protective clothing
- Apron

**9 Physical and chemical properties:****General Information**

Form: Liquid  
 Colour: Colourless  
 Odour: Aromatic

**Change in condition**

Melting point/Melting range: Not determined  
 Boiling point/Boiling range: > 79°C

Flash point: 1°C (TCC)

Ignition temperature: > 450°C

Danger of explosion: Product is not explosive. However, formation of explosive air/steam mixtures is possible. see section 7. & 10.

**Critical values for explosion:**

Lower: 1.2 Vol %  
 Upper: 11.5 Vol %

Vapour pressure at 20°C: 65 hPa

Density at 20°C: 0.83 g/cm<sup>3</sup>

**Solubility in / Miscibility with**

Water: Slightly soluble

Organic solvents: Soluble in many organic solvents

**Solvent content:**

Organic solvents: > 99 %

**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

Stable at ambient temperature  
 No decomposition if used and stored according to specifications.

**Dangerous reactions**

Develops readily flammable gases / fumes  
 Used empty containers may contain product gases which form explosive mixtures with air  
 Reacts with strong oxidizing agents

**Dangerous products of decomposition:**

Inflammable gases/vapours  
 Hydrocarbons  
 Carbon monoxide and carbon dioxide

**11 Toxicological information****Acute toxicity:****LD/LC50 values that are relevant for classification:****108-88-3 toluene**

Oral LD50 > 2000 mg/kg (rat)

Dermal LD50 > 14000 mg/kg (rab)

Inhalative LC50/4 h 31 mg/l (rat)

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- **Primary irritant effect:**
- **on the skin:** ---
- **on the eye:** Irritant effect.
- **Sensitization:** ---
- **Additional toxicological information:**
- Inhalation of concentrated vapours as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc.

**12 Ecological information:**

- **General notes:** Do not allow product to reach ground water, water bodies or sewage system.

**13 Disposal considerations**

- **Product:**
- **Recommendation**
- Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**
- 07 02 04 other organic solvents, washing liquids and mother liquors
- 08 01 17 wastes from paint or varnish removal containing organic solvents or other dangerous substances
- 04 02 14 wastes from finishing containing organic solvents
- **Uncleaned packagings:**
- **Recommendation:**
- Disposal must be made according to official regulations.
- Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
- **Recommended cleaning agent:** -

**14 Transport information**

- Land transport ADR/RID (cross-border)



- **ADR/RID-GGVS/E Class:** 3 Flammable liquids.
- **Kemler Number:** 33
- **UN-Number:** 1993
- **Packaging group:** II
- **Label:** 3
- **Designation of goods:** 1993 FLAMMABLE LIQUID, N.O.S. (vapor pressure at 50°C at most 110 kPa) (TOLUENE, ETHYL METHYL KETONE)

- Maritime transport IMDG:



- **IMDG Class:** 3
- **UN Number:** 1993
- **Label:** 3
- **Packaging group:** II
- **EMS Number:** F-E,S-E
- **Marine pollutant:** Not a marine pollutant

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**Correct technical name: FLAMMABLE LIQUID, N.O.S. (TOLUENE, ETHYL METHYL KETONE)****Air transport ICAO-TI and IATA-DGR:**

- ICAO/IATA Class: 3
- UNID Number: 1993
- Label: 3
- Packaging group: II
- Correct technical name: FLAMMABLE LIQUID, N.O.S. (TOLUENE, ETHYL METHYL KETONE)

**\*15 Regulatory information**

- **Designation according to EC guidelines:**  
The product has been labelled in accordance with EC Directives / relevant national laws.
- **Code letter and hazard designation of product:**  
Xn Harmful  
F+ Highly flammable
- **Hazard-determining components of labelling:**  
toluene
- **Risk phrases:**  
11 Highly flammable.  
20 Harmful by inhalation.  
36 Irritating to eyes.
- **Safety phrases:**  
9 Keep container in a well-ventilated place.  
16 Keep away from sources of ignition - No smoking.  
23 Do not breathe fumes/aerosol.  
25 Avoid contact with eyes.  
51 Use only in well-ventilated areas.  
60 This material and its container must be disposed of as hazardous waste.
- **National regulations**
- **Technical instructions on air emissions in Germany ("TA Luft"):**
- **Class Share in %**  
NK 60-100
- **Water hazard class (as established in Germany):**  
Water hazard class 2 (Self-assessment): hazardous for water.

**16 Other information:**

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant R-phrases**  
11 Highly flammable.  
20 Harmful by inhalation.  
36 Irritating to eyes.  
66 Repeated exposure may cause skin dryness or cracking.  
67 Vapours may cause drowsiness and dizziness.

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**Department issuing data specification sheet:**

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\* Data compared to the previous version altered.

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