

## PRODUCT SAFETY DATA SHEET

According to article 31 and Annex II of the EU REACH Regulation

Version: 5.3

Revision Date: 26.05.2009

## MOLYKOTE(R) D-3484 ANTI-FRICTION COATING

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

<b>Trade name</b>	:	MOLYKOTE(R) D-3484 ANTI-FRICTION COATING	
<b>Company</b>	:	Dow Corning Europe S.A. rue Jules Bordet - Parc Industriel - Zone C B-7180 Seneffe Belgium	
<b>Service</b>	:	Dow Corning Central Europe	Tel: +49 6112371 Fax: +49 611237609
		Dow Corning Northern Europe	Tel: +44 1676528000 Fax: +44 1676528001
		Dow Corning Southern Europe	Tel: +33 472841360 Fax: +33 472841379
<b>Emergency Phone Number</b>	:	Dow Corning (Barry U.K. 24h)	Tel: +44 1446732350
		Dow Corning (Wiesbaden 24h)	Tel: +49 61122158
		Dow Corning (Seneffe 24h)	Tel: +32 64 888240
<b>E-mail address (Safety Data Sheet)</b>	:	sdseu@dowcorning.com	
<b>Use of the substance/preparation</b>	:	Lubricants and additives	

## 2. HAZARDS IDENTIFICATION

The principal hazards of the product as supplied are:

Flammable.  
Risk of serious damage to eyes.  
Repeated exposure may cause skin dryness or cracking.  
Vapours may cause drowsiness and dizziness.

Vapours may form explosive mixtures with air.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Chemical characterization:** Polyglycol.

**Hazardous Ingredients:**

Name	CAS-No.	EINECS/ ELINCS No.	Conc. (% w/w)	Classification
n-Butyl acetate	123-86-4	204-658-1	36.0	R66 R10 R67
Molybdenum sulfide	1317-33-5	215-263-9	20.0	
Butan-1-ol	71-36-3	200-751-6	11.0	R10 R22 R37/38
				Xn Xi

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R41

R67

R10

2-Methoxy-1-methylethyl  
acetate

108-65-6

203-603-9

8.4

Ethanol

64-17-5

200-578-6

3.0

F

R11

Phenol

108-95-2

203-632-7

0.47

C

R34

Xn, Muta. Cat. 3 R68

T

R23/24/25

Xn

R48/20/21/22

## 4. FIRST AID MEASURES

**On contact with eyes** : Immediately flush with water. Obtain medical attention immediately.**On skin contact** : Flush with water.**If inhaled** : Remove to fresh air. Obtain medical attention.**On ingestion** : Do not induce vomiting. Obtain medical attention.

## 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media** : On large fires use dry chemical, foam or water spray (fog). On small fires use carbon dioxide (CO<sub>2</sub>), dry chemical or water spray. Water can be used to cool fire exposed containers.**Unsuitable extinguishing media** : None known.**Hazards during fire fighting** : Electrostatic charges may be generated during transfer of product from its container. Ensure that all equipment is electrically earthed. Vapours may form explosive mixtures with air.**Special protective equipment/procedures** : A self-contained respirator and protective clothing should be worn. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.**Hazardous Combustion Products** : Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde. Sulphur products. Nitrogen products.

## 6. ACCIDENTAL RELEASE MEASURES

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<b>Personal precautions</b>	:	Wear proper protective equipment.
<b>Environmental precautions</b>	:	Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers.
<b>Methods for cleaning up</b>	:	Determine the need to evacuate or isolate the area according to your local emergency plan. Eliminate all possible sources of ignition. Very large spills should be contained by bunding, etc... procedures. Mop, wipe or soak up with absorbent material and place in a container with a lid. The spilled product produces an extremely slippery surface.

## 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	:	General ventilation is required. Local ventilation is recommended. Avoid skin and eye contact. Do not breathe vapour. Do not breathe spray or mist.
<b>Advice on storage</b>	:	Store in a flameproof, well ventilated area. Electrostatic charges may be generated during transfer of product from its container. Ensure that all equipment is electrically earthed. Keep container tightly closed. Vapours may form explosive mixtures with air.
<b>Specific uses</b>	:	Refer to technical data sheet available on request.
<b>Unsuitable packaging materials</b>	:	None known.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls** : Ventilation : Refer to Section 7

**Exposure controls for hazardous components**

Name	CAS-No.	Exposure Limits
n-Butyl acetate	123-86-4	200 ppm STEL 150 ppm TWA 966 mg/m3 STEL 724 mg/m3 TWA
Molybdenum sulfide	1317-33-5	20 mg/m3 STEL as Mo, insoluble compounds 10 mg/m3 STEL as Mo, soluble compounds 10 mg/m3 TWA as Mo, insoluble compounds 5 mg/m3 TWA as Mo, soluble compounds
Butan-1-ol	71-36-3	50 ppm STEL 154 mg/m3 STEL
2-Methoxy-1-methylethyl acetate	108-65-6	50 ppm TWA 100 ppm STEL 274 mg/m3 TWA

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548 mg/m3 STEL

Ethanol 64-17-5 1,000 ppm TWA  
1,920 mg/m3 TWA

Phenol 108-95-2 10 ppm STEL  
5 ppm TWA  
39 mg/m3 STEL  
20 mg/m3 TWA

**Personal protection equipment**

- Respiratory protection** : A suitable respirator must be worn if the product is used in any circumstances where an aerosol or mist may be generated, such as during spraying or similar activities. Suitable respiratory protection should be worn if the product is used in large quantities, confined spaces or in other circumstances where the OEL may be approached or exceeded.  
Depending on the working conditions, wear a respiratory mask with filter(s) ABP or use a self-contained respirator.  
The choice of a filter type depends on the amount and type of chemical being handled in the workplace. Regarding filter characteristics, contact your respiratory protection supplier.
- Hand protection** : Chemical protective gloves should be worn: Viton(TM). 4H(TM). Silver shield(TM). Regarding glove's breakthrough time, contact your chemical protective glove supplier.
- Eye protection** : Face shield or safety goggles.
- Skin protection** : Wear impervious overalls in circumstances where significant skin contact can occur.
- Hygiene measures** : Exercise good industrial hygiene practice. Wash after handling, especially before eating, drinking or smoking.
- Environmental exposure controls** : Refer to section 6 and 12.
- Additional information** : These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

**Form:** Liquid      **Colour:** Gray      **Odour:** Solvent

**Important health, safety and environmental information**

**Boiling point/range** : > 35 °C

**Flash point** : 21.5 °C (Tag Closed Cup)

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<b>Explosive properties</b>	:	No Vapours may form explosive mixtures with air.
<b>Specific Gravity</b>	:	1.2
<b>Viscosity</b>	:	70 s at 25°C.
<b>Oxidizing properties</b>	:	No

The above information is not intended for use in preparing product specifications. Contact Dow Corning before writing specifications.

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	:	Stable under normal usage conditions.
<b>Conditions to avoid</b>	:	None established.
<b>Materials to avoid</b>	:	Can react with strong oxidising agents.
<b>Hazardous decomposition products</b>	:	Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Formaldehyde. Sulphur products. Nitrogen products.

## 11. TOXICOLOGICAL INFORMATION

<b>On contact with eyes</b>	:	Can cause serious irreversible injury.
<b>On skin contact</b>	:	Repeated or prolonged contact may cause defatting of the skin, leading to dermatitis. Can irritate on prolonged or repeated contact.
<b>If inhaled</b>	:	May cause dizziness, drowsiness, confusion, headaches, nausea, and at high concentrations, unconsciousness.
<b>On ingestion</b>	:	Small amounts transferred to the mouth by fingers during use should not injure. Swallowing large amounts may cause digestive discomfort.
<b>Other Health Hazard Information</b>	:	This product contains (a) powder(s) hazardous by inhalation. This is not relevant to the current physical form of the product, which is not in a respirable form. Product may emit formaldehyde vapour at temperatures above 150°C in the presence of air. Formaldehyde vapour is a suspected carcinogen, toxic by inhalation and irritating to eyes and the respiratory system. Exposure limits should be strictly respected.

<sup>1</sup> Based on product test data.

<sup>2</sup> Based on test data from similar products.

## 12. ECOLOGICAL INFORMATION

**Environmental fate and distribution**

Organic solvents may evaporate into the atmosphere, where they degrade.

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**MOLYKOTE(R) D-3484 ANTI-FRICTION COATING****Ecotoxicity effects**

No adverse effects on aquatic organisms are predicted.

**Bioaccumulation** : Low potential to bioaccumulate.**Fate and effects in waste water treatment plants**

No adverse effects on bacteria are predicted.

**13. DISPOSAL CONSIDERATIONS**

**Product disposal** : Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

**Packaging disposal** : Dispose of in accordance with local regulations. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

**14. TRANSPORT INFORMATION****Road / Rail (ADR/RID)****UN No.** : UN 1993**Proper Shipping Name** : FLAMMABLE LIQUID, N.O.S.(Butyl Acetate / 1-Butanol)**Class** : 3**Packing group** : II**Labels** : 3**Sea transport (IMDG)****UN No.** : UN 1993**Proper Shipping Name** : FLAMMABLE LIQUID, N.O.S.(Butyl Acetate / 1-Butanol)**Class** : 3**Packing group** : II**Emergency Schedule  
(EmS)** : F-E  
S-E**Labels** : flammable liquid**Air transport (IATA)**

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**UN No.** : UN 1993

**Proper Shipping Name** : Flammable liquid, n.o.s.(Butyl Acetate / 1-Butanol)

**Class** : 3

**Packing group** : II

**Labels** : Flammable Liquid

**15. REGULATORY INFORMATION****Labelling according to EEC Directive**

**Symbols** : Xi Irritant.

**R-phrases** : R10 Flammable.  
R41 Risk of serious damage to eyes.  
R66 Repeated exposure may cause skin dryness or cracking.  
R67 Vapours may cause drowsiness and dizziness.

**S-phrases** : S23(S) Do not breathe spray.  
S23(V) Do not breathe vapour.  
S24 Avoid contact with skin.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S39 Wear eye/face protection.  
S51 Use only in well-ventilated areas.

**National legislation / regulations**

**Ozone depleting chemicals** : No ozone depleting chemicals are present or used in manufacture.

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Status

<b>DSL</b>	: All ingredients listed or exempt.
<b>IECSC</b>	: All ingredients listed or exempt.
<b>EINECS</b>	: All ingredients listed, exempt or notified (ELINCS).
<b>ENCS/ISHL</b>	: All ingredients listed, exempt or notified.
<b>AICS</b>	: One or more ingredients are not listed or exempt.
<b>KECL</b>	: One or more ingredients are not listed or exempt or identified.
<b>PICCS</b>	: One or more ingredients are not listed or exempt.
<b>TSCA</b>	: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

## 16. OTHER INFORMATION

This product safety data sheet was prepared in compliance with article 31 and Annex II of the EU REACH Regulation as well as its relevant amendments, on the approximation of laws, regulations and administrative provisions relative to the classification, packaging and labelling of dangerous substances and preparations.

It is the responsibility of persons in receipt of this Product Safety Data Sheet to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces a formulation containing the Dow Corning product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from the Dow Corning Product Safety Data Sheet to their own Product Safety Data Sheet in compliance with article 31 and Annex II of the EU REACH Regulation.

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS. Dow Corning shall not be held responsible for any defect in the product covered by this SDS, should the existence of such defect not be detectable considering the current state of scientific and technical knowledge.

As stated above, this Safety Data Sheet has been prepared in compliance with applicable European law. If you purchase this material outside Europe, where compliance laws may differ, you should receive from your local Dow Corning supplier a SDS applicable to the country in which the product is sold and intended to be used. Please note that the appearance and content of the SDS may vary - even for the same product - between different countries, reflecting the different compliance requirements. Should you have any question, please refer to your local Dow Corning supplier.

**R10** Flammable., **R11** Highly flammable., **R22** Harmful if swallowed., **R23/24/25** Toxic by inhalation, in contact with skin and if swallowed., **R34** Causes burns., **R37/38** Irritating to respiratory system and skin., **R41** Risk of serious damage to eyes., **R48/20/21/22** Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed., **R66** Repeated exposure may cause skin dryness or cracking., **R67** Vapours may cause drowsiness and dizziness., **R68** Possible risk of irreversible effects.