

PRODUCT SAFETY DATA SHEET

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

Version: 3.0

Revision Date: 07.05.2009

MOLYKOTE(R) D-321 R SPRAY

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

Trade name	:	MOLYKOTE(R) D-321 R SPRAY	
Company	:	Dow Corning Europe S.A. rue Jules Bordet - Parc Industriel - Zone C B-7180 Seneffe Belgium	
Service	:	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
Emergency Phone Number	:	Dow Corning (Barry U.K. 24h)	Tel: +44 1446732350
		Dow Corning (Wiesbaden 24h)	Tel: +49 61122158
		Dow Corning (Seneffe 24h)	Tel: +32 64 888240
E-mail address (Safety Data Sheet)	:	sdseu@dowcorning.com	
Use of the substance/preparation	:	Lubricants and additives	

2. HAZARDS IDENTIFICATION

The principal hazards of the product as supplied are:

Extremely flammable.
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Vapours may cause drowsiness and dizziness.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterization: Molybdenum disulfide aerosol

Hazardous Ingredients:

Name	CAS-No.	EINECS/ ELINCS No.	Conc. (% w/w)	Classification
Butane	106-97-8	203-448-7	58,0	F+ R12
n-Butyl acetate	123-86-4	204-658-1	10,0	R66 R10 R67
Propane	74-98-6	200-827-9	10,0	F+ R12
Naphtha (petroleum), hydrodesulfurized heavy	64742-82-1	265-185-4	8,9	N Xn R10 R51/53 R65 R66

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					R67
Molybdenum sulfide	1317-33-5	215-263-9	6,0		
Polybutyl titanate	9022-96-2	Exempt or not available	3,5	Xi	R36
Graphite	7782-42-5	231-955-3	1,6		

4. FIRST AID MEASURES

- On contact with eyes** : Flush with water.
- On skin contact** : Flush with water.
- If inhaled** : Remove to fresh air. Obtain medical attention.
- On ingestion** : No first aid should be needed.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media** : On large fires use dry chemical, foam or water spray (fog). On small fires use carbon dioxide (CO2), dry chemical or water spray. Water can be used to cool fire exposed containers.
- Unsuitable extinguishing media** : None known.
- Hazards during fire fighting** : Pressurised container capable of exploding if heated.
- 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

- Personal precautions** : Wear proper protective equipment.
- Environmental precautions** : Do not empty into drains. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers.
- Methods for cleaning up** : Determine the need to evacuate or isolate the area according to your local emergency plan. Eliminate all possible sources of ignition.

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7. HANDLING AND STORAGE

- Advice on safe handling** : General ventilation is required. Local ventilation is required. Do not breathe spray or mist. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - no smoking. Avoid skin and eye contact. Do not breathe vapour.
- Advice on storage** : Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Store in a flameproof, well ventilated area.
- Specific uses** : Refer to technical data sheet available on request.
- Unsuitable packaging materials** : None known.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls : Ventilation : Refer to Section 7

Exposure controls for hazardous components

Name	CAS-No.	Exposure Limits
Butane	106-97-8	800 ppm TWA 800 ppm TWA 1.900 mg/m3 TWA 1.900 mg/m3 TWA
n-Butyl acetate	123-86-4	200 ppm STEL 150 ppm TWA 200 ppm STEL 150 ppm TWA 950 mg/m3 STEL 713 mg/m3 TWA 950 mg/m3 STEL 713 mg/m3 TWA
Propane	74-98-6	2.500 ppm TWA 2.500 ppm TWA 4.508 mg/m3 TWA 4.508 mg/m3 TWA
Naphtha (petroleum), hydrodesulfurized heavy	64742-82-1	100 ppm TWA (supplier recommendation).
Molybdenum sulfide	1317-33-5	10 mg/m3 TWA as Mo 5 mg/m3 TWA as Mo 10 mg/m3 TWA as Mo, insoluble compounds 5 mg/m3 TWA as Mo, soluble compounds
Polybutyl titanate	9022-96-2	20 ppm TWA as n-Butanol

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Graphite 7782-42-5 2 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) AXP 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: Polyvinyl alcohol(PVA). Silver shield(TM). 4H(TM). Viton(TM). Regarding glove's breakthrough time, contact your chemical protective glove supplier.
- Eye protection** : Safety goggles should be worn.
- 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.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form: Aerosol **Colour:** Black **Odour:** Solvent

Important health, safety and environmental information

Specific Gravity : Not determined.

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

10. STABILITY AND REACTIVITY

- Stability** : Stable under normal usage conditions.
- Conditions to avoid** : None established.
- Materials to avoid** : Can react with strong oxidising agents.

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Hazardous decomposition 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.

11. TOXICOLOGICAL INFORMATION

On contact with eyes : Slightly irritating.

On skin contact : Repeated or prolonged contact may cause defatting of the skin, leading to dermatitis.

If inhaled : May cause dizziness, drowsiness, confusion, headaches, nausea, and at high concentrations, unconsciousness.

On ingestion : Small amounts transferred to the mouth by fingers during use should not injure. Swallowing large amounts may cause digestive discomfort.

¹ Based on product test data.

² Based on test data from similar products.

12. ECOLOGICAL INFORMATION**Environmental fate and distribution**

Organic solvents may evaporate into the atmosphere, where they degrade. The organic solvents in the product are biodegradable.

Ecotoxicity effects

Harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

Bioaccumulation : Low potential to bioaccumulate.

Fate and effects in waste water treatment plants

May cause adverse effects on bacteria. If used as intended this product is not expected to reach waste water treatment plants.

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)**

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UN No. : UN 1950

Proper Shipping Name : AEROSOLS

Class : 2

Labels : 2.1

Sea transport (IMDG)

UN No. : UN 1950

Proper Shipping Name : AEROSOLS

Class : 2.1

Emergency Schedule (EmS) : F-D
S-U

Air transport (IATA)

UN No. : UN 1950

Proper Shipping Name : Aerosols, flammable

Class : 2.1

Labels : Flammable Gas

: Apply Gross Wt Supplemental Label to Outer Package if shipping Limited Quantity

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MOLYKOTE(R) D-321 R SPRAY**15. REGULATORY INFORMATION****Labelling according to EEC Directive**

Symbols	:	F+ Extremely flammable.
R-phrases	:	R12 Extremely flammable. R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R67 Vapours may cause drowsiness and dizziness.
S-phrases	:	S2 Keep out of the reach of children. S16 Keep away from sources of ignition - no smoking. S23(S) Do not breathe spray. S24/25 Avoid contact with skin and eyes. S51 Use only in well-ventilated areas. S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.
Other phrases	:	Do not spray on a naked flame or any incandescent material. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.

National legislation / regulations

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

Status

EINECS : All ingredients listed, exempt or notified (ELINCS).

AICS : All ingredients listed, exempt or notified.

IECSC : All ingredients listed or exempt.

ENCS/ISHL : Consult your local Dow Corning office.

KECL : All ingredients listed, exempt or notified.

PICCS : All ingredients listed, exempt or notified.

DSL : All ingredients listed or exempt.

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MOLYKOTE(R) D-321 R SPRAY**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., **R12** Extremely flammable., **R36** Irritating to eyes., **R51/53** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment., **R65** Harmful: May cause lung damage if swallowed., **R66** Repeated exposure may cause skin dryness or cracking., **R67** Vapours may cause drowsiness and dizziness.