



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### ADDINOL Brake Fluid DOT 5.1

Print date: 08.12.2014

Product code: 796015

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

##### 1.1. Product identifier

ADDINOL Brake Fluid DOT 5.1

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

###### Use of the substance/mixture

Brake fluid.

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

Company name:	ADDINOL Lube Oil GmbH	
	Gebäude 4609	
Street:	Am Haupttor	
Place:	D-06237 Leuna	
Telephone:	+49 (0) 3461 845-201	Telefax: +49 (0) 3461 845-561
e-mail:	info@addinol.de	
Contact person:	Application Technology	
Internet:	www.addinol.de	
Responsible Department:	ADDINOL Application Technology	

**1.4. Emergency telephone number:** +49 (0) 3461 845-201 - This number is serviced during office hours.

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

R phrases:  
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

###### GHS classification

Hazard categories:  
Hazardous to the aquatic environment: Aquatic Chronic 3  
Hazard Statements:  
Harmful to aquatic life with long lasting effects.

##### 2.2. Label elements

###### Hazard statements

H412 Harmful to aquatic life with long lasting effects.

###### Precautionary statements

P273 Avoid release to the environment.  
P501 Dispose of contents/container to a waste disposal system.

###### Additional advice on labelling

This preparation is hazardous in the sense of regulation (EC) No 1272/2008 [GHS].

##### 2.3. Other hazards

Contains: < 0,5% N,N-di(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methanamine. May produce an allergic reaction.  
Prolonged/repetitive skin contact may cause skin defatting or dermatitis.  
Spilled product must not leak into the ground.  
Do not allow uncontrolled leakage of product into the environment.

#### SECTION 3: Composition/information on ingredients

##### 3.2. Mixtures



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#### Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
203-872-2	Bis(2-hydroxyethyl)ether	< 1,50 %
111-46-6	Xn - Harmful R22	
	Acute Tox. 4; H302	
01-2119457857-21		
202-980-7	Dicyclohexylamine	< 1,00 %
101-83-7	C - Corrosive, N - Dangerous for the environment R22-34-50-53	
	Acute Tox. 4, Skin Corr. 1B, Aquatic Acute 1, Aquatic Chronic 1; H302 H314 H400 H410	
279-503-4	N,N-di(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methanamine	< 0,50 %
80584-90-3	Xi - Irritant, N - Dangerous for the environment R38-43-51-53	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411	

Full text of R and H phrases: see Section 16.

#### Further Information

Classification system: The classification corresponds to the current EC lists and is completed by information from specialist literature and company information.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

Self-protection of the first aider.. Change contaminated clothing. Do not put any product-impregnated cleaning rags into your trouser pockets.

##### After inhalation

Move victim to fresh air. Put victim at rest and keep warm. Seek medical attention if problems persist.

##### After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Change contaminated clothing. Use skin protection ointment after cleaning. In case of skin irritation, seek medical treatment.

##### After contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

##### After ingestion

Do not induce vomiting.

Rinse mouth thoroughly with water. Immediately get medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

No information available.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Foam. Extinguishing powder. Carbon dioxide (CO<sub>2</sub>). Water spray.



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#### Unsuitable extinguishing media

High power water jet.

#### 5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide. Nitrogen oxides (NO<sub>x</sub>). Carbon black.

#### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

#### Additional information

Extinguishing materials should be selected according to the surrounding area. Use water spray/stream to protect personnel and to cool endangered containers. In case of fire and/or explosion do not breathe fumes. Contaminated fire-fighting water must be collected separately. Do not empty into drains or the aquatic environment.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

High slip hazard because of leaking or spilled product. Remove all sources of ignition. Wear respiratory protection when in the presence of vapour, dust, and aerosols.

#### 6.2. Environmental precautions

Do not empty into drains or the aquatic environment. In case of gas being released or leakage into waters, ground or the drainage system, the appropriate authorities must be informed. Prevent spreading over great surfaces (e.g. by damming or installing oil booms).

#### 6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Collect in closed containers for disposal. Clean contaminated objects and areas thoroughly observing environmental regulations.

#### 6.4. Reference to other sections

Refer to the provisions listed in Sections 8, 12 and 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

Work in well ventilated zones or use proper respiratory protection. Avoid oil mist. In case of open handling equipment with built-in suction must be used. Avoid contact with skin, eye and clothing.

##### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Only use anti-static equipped (spark-free) tools.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### Requirements for storage rooms and vessels

Keep the packing dry and well sealed to prevent contamination and absorption of dampness. Keep container tightly closed in a cool place.

##### Advice on storage compatibility

Keep away from food, drink and animal feedingstuffs.

##### Further information on storage conditions

Recommended storage temperature: 10 - 30°C

#### 7.3. Specific end use(s)

Brake fluid.

### SECTION 8: Exposure controls/personal protection



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#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
111-46-6	2,2'-Oxydiethanol	23	101		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

##### Additional advice on limit values

source:

#### 8.2. Exposure controls



##### Appropriate engineering controls

Provide for sufficient ventilation and punctiform suction at critical points.

##### Protective and hygiene measures

Wash hands before breaks and at the end of work. Take off immediately all contaminated clothing. Wash contaminated clothing prior to re-use. Do not eat, drink, smoke or sneeze at the workplace.

##### Eye/face protection

Tightly sealed safety glasses. German Industry Norms (DIN) / European Norms (EN): DIN EN 166

##### Hand protection

Tested protective gloves are to be worn: German Industry Norms (DIN) / European Norms (EN): DIN EN 374

Duration of wearing with permanent contact: 480 min

Suitable material: NBR (Nitrile rubber).

Thickness of glove material: 0.7 mm.

Duration of wearing with occasional contact (splashes): 30 min

Suitable material: NBR (Nitrile rubber).

Thickness of glove material: 0.4 mm

Protect skin by using skin protective cream.

##### Skin protection

Wear suitable protective clothing. Change contaminated clothing. Do not put any product-impregnated cleaning rags into your trouser pockets.

##### Respiratory protection

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn. Breathing protection with filter against organic gases and vapours type A - boiling point > 65°C: A1: < 1000 ppm; A2: < 5000 ppm; A3: < 10000 ppm

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	amber coloured
Odour:	characteristic

#### Test method

#### Changes in the physical state



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Initial boiling point and boiling range: > 260 °C ASTM D 1120  
Flash point: > 110 °C DIN EN ISO 2592

#### Explosive properties

not Explosive.

Ignition temperature: 210 °C DIN 51794

Density (at 20 °C): 1,065 g/cm<sup>3</sup> ISO 12185

Water solubility: complete miscible

Viscosity / kinematic:  
(at 40 °C) 6,90 mm<sup>2</sup>/s ISO 3104

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable with proper care and handling.

### 10.2. Chemical stability

The product is chemically stable when handled and stored under normal conditions.

### 10.3. Possibility of hazardous reactions

No decomposition if used as intended.

### 10.4. Conditions to avoid

Do not overheat to avoid decomposition by heat.

Refer to chapter 7 No further action is necessary.

### 10.5. Incompatible materials

No data available

### 10.6. Hazardous decomposition products

Can be released in case of fire: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide. Nitrogen oxides (NO<sub>x</sub>).  
Carbon black.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity

No data available

Mixture not tested.

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
111-46-6	Bis(2-hydroxyethyl)ether				
	oral	ATE	500 mg/kg		
101-83-7	Dicyclohexylamine				
	oral	ATE	500 mg/kg		
80584-90-3	N,N-di(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methanamine				
	oral	LD50	2.000 mg/kg	Rat.	

#### Irritation and corrosivity

Irritant effect on the eye: Not an irritant.

Irritant effect on the skin: Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

#### Sensitising effects



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Contains: < 0,5% N,N-di(2-ethylhexyl)-4-methyl-1H-benzotriazole-1-methanamine. May produce an allergic reaction.

#### Severe effects after repeated or prolonged exposure

Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

#### Carcinogenic/mutagenic/toxic effects for reproduction

No data available

#### Specific effects in experiment on an animal

No data available

## SECTION 12: Ecological information

### 12.1. Toxicity

No data available

Mixture not tested.

### 12.2. Persistence and degradability

Individual components are biodegradable. Is well eliminable from water.

### 12.3. Bioaccumulative potential

No data available

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

### 12.6. Other adverse effects

No data available

#### Further information

Do not allow uncontrolled leakage of product into the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Advice on disposal

Must not be disposed of with domestic refuse. Do not empty into drains or the aquatic environment.

#### Waste disposal number of waste from residues/unused products

160113 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; end-of-life vehicles from different means of transport (including off-road machinery) and wastes from dismantling of end-of-life vehicles and vehicle maintenance (except 13, 14, 16 06 and 16 08); brake fluids  
Classified as hazardous waste.

#### Contaminated packaging

Contaminated packing must be completely emptied and can be re-used following appropriate cleaning. Waste disposal according to official state regulations. Packing which cannot be properly cleaned must be thrown away.

## SECTION 14: Transport information

### Land transport (ADR/RID)

**14.1. UN number:** -

### Inland waterways transport (ADN)

**14.1. UN number:** -

### Marine transport (IMDG)



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**14.1. UN number:** -

#### Air transport (ICAO)

**14.1. UN number:** -

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

#### 14.6. Special precautions for user

Unless specified otherwise, general measures for safe transport must be followed.

#### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

not applicable

#### Other applicable information

Not a hazardous material with respect to these transportation regulations.

### SECTION 15: Regulatory information

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

##### National regulatory information

Water contaminating class (D): 1 - slightly water contaminating

#### 15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

### SECTION 16: Other information

#### Full text of R phrases referred to under Sections 2 and 3

22	Harmful if swallowed.
34	Causes burns.
38	Irritating to skin.
43	May cause sensitisation by skin contact.
50	Very toxic to aquatic organisms.
51	Toxic to aquatic organisms.
52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
53	May cause long-term adverse effects in the aquatic environment.

#### Full text of H statements referred to under Sections 2 and 3

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

#### Further Information

This preparation is hazardous in the sense of regulation (EC) No 1272/2008 [GHS].

These given data only refer to the named product. If the product is used together with other materials or in manufacturing processes the data might not be applicable any more. The data are based on today's state of our knowledge and experience. They are, however, no guarantee of any specific product properties and do not established any legally valid contractual relationship.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.



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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*