



**Safety Data Sheet**

according to UK REACH Regulation

**ADDINOL Hydraulic Fluid HFD U 46**

Revision date: 29.05.2024

Product code: 760008

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**Relevant ingredients**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
68411-46-1	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene			0.1 - < 0.3 %
	270-128-1		01-2119491299-23	
	Repr. 2, Aquatic Chronic 3; H361f H412			

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
68411-46-1	270-128-1	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	0.1 - < 0.3 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg		

**Further Information**

DMSO-Extract < 3 %; IP 346. 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. Call a physician immediately.

**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**

First Aid, decontamination, treatment of symptoms.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>). Extinguishing powder. alcohol resistant foam. Water fog.

**Unsuitable extinguishing media**

High power water jet.

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

In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>). carbon black

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### 5.3. Advice for firefighters

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

### **Additional information**

Co-ordinate fire-fighting measures to the fire surroundings. 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 allow to enter into surface water or drains.

## SECTION 6: Accidental release measures

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

#### **General advice**

High slip hazard because of leaking or spilled product. Remove all sources of ignition. Wear breathing apparatus if exposed to vapours/dusts/aerosols.

### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Prevent spread over a wide area (e.g. by containment or oil barriers).

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

#### **Other information**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clean contaminated articles and floor according to the environmental legislation.

### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Section 12: Ecological Information (non-mandatory)

Disposal: see section 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. If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid contact with skin, eyes and clothes.

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

Keep away from sources of ignition - No smoking.

#### **Advice on general occupational hygiene**

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

### 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 humidity. Keep container tightly closed in a cool place. Keep/Store only in original container.

#### **Hints on joint storage**

Keep away from food, drink and animal feedingstuffs.

Keep away from: Oxidizing agents.

#### **Further information on storage conditions**

Protect against: UV-radiation/sunlight. heat. frost.

Recommended storage temperature: 5 - 40°C

### 7.3. Specific end use(s)

Further information: see technical data sheet.

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**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
68411-46-1	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene			
Worker DNEL, long-term		inhalation	systemic	0,31 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	0,44 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,08 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	0,22 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,05 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
68411-46-1	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	
Freshwater		0,034 mg/l
Freshwater (intermittent releases)		0,51 mg/l
Marine water		0,003 mg/l
Freshwater sediment		0,446 mg/kg
Marine sediment		0,045 mg/kg
Secondary poisoning		0,833 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		17,6 mg/kg

**Additional advice on limit values**

Recommended limit value for oil mist

TWA: 5 mg/m<sup>3</sup>STEL: 10 mg/m<sup>3</sup>

The product does not contain any relevant quantities of substances with legally established exposure limitation.

**8.2. Exposure controls****Appropriate engineering controls**

Provide adequate ventilation as well as local exhaust at critical locations.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

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

**Hand protection**

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

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Duration of wearing with permanent contact: 480 min  
 Suitable material: NBR (Nitrile rubber). PVC (Polyvinyl chloride).  
 Thickness of glove material: 0.7 mm.

Wearing time with occasional contact (splashes): 30 min  
 Suitable material: NBR (Nitrile rubber). PVC (Polyvinyl chloride).  
 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 exhaust or ventilation measures are not possible or insufficient, respiratory protection 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:	yellow-orange
Odour:	characteristic
Odour threshold:	not determined

	Test method
Melting point/freezing point:	No data available
Boiling point or initial boiling point and boiling range:	not determined
Flammability:	No data available
Lower explosion limits:	0,6 vol. %
Upper explosion limits:	6,5 vol. %
Flash point:	> 280 °C DIN EN ISO 2592
Auto-ignition temperature:	not determined
Decomposition temperature:	No data available
pH-Value:	No data available
Viscosity / kinematic: (at 40 °C)	49 mm <sup>2</sup> /s ASTM D 7042
Water solubility:	virtually insoluble
Solubility in other solvents No data available	
Partition coefficient n-octanol/water:	No data available
Vapour pressure:	No data available
Density (at 15 °C):	0,916 g/cm <sup>3</sup> DIN 51757
Relative vapour density:	No data available
Particle characteristics:	No data available

**9.2. Other information****Information with regard to physical hazard classes**

Explosive properties

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

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Oxidizing properties  
No data available

**Other safety characteristics**

Evaporation rate: No data available  
Pour point: -25 °C ASTM D 7346

**Further Information**

No data available

**SECTION 10: Stability and reactivity****10.1. Reactivity**

The product is stable under storage at normal ambient temperatures.

**10.2. Chemical stability**

The mixture is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions**

No known hazardous reactions.

**10.4. Conditions to avoid**

Refer to chapter 7 No further action is necessary.

Do not overheat to avoid decomposition by heat.

**10.5. Incompatible materials**

Reacts with: Oxidizing agents, strong.

**10.6. Hazardous decomposition products**In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>). carbon black**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

Based on available data, the classification criteria are not met.  
Mixture not tested.

**ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
68411-46-1	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene				
	oral	LD50 > 5000 mg/kg	Rat	Study report (1982)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1988)	OECD Guideline 402

**Irritation and corrosivity**

Skin corrosion/irritation: Based on available data, the classification criteria are not met.  
Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

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Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**11.2. Information on other hazards****Endocrine disrupting properties**

not applicable

**Further information**

If handled with proper care and at intended use, the product does not cause any harmful effects acc. to our experiences and available information.

**SECTION 12: Ecological information****12.1. Toxicity**

Based on available data, the classification criteria are not met.

No data available

Mixture not tested.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
68411-46-1	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene					
	Acute fish toxicity	LC50 > 100 mg/l	96 h	Danio rerio	Study report (1988)	OECD Guideline 203
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Desmodesmus subspicatus	Study report (2006)	OECD Guideline 201
	Acute crustacea toxicity	EC50 51 mg/l	48 h	Daphnia magna	Study report (2004)	OECD Guideline 202
	Fish toxicity	NOEC 10 mg/l	34 d	Danio rerio	Study report (2020)	OECD Guideline 210
	Crustacea toxicity	NOEC 4,45 mg/l	21 d	Daphnia magna	Study report (2020)	OECD Guideline 211

**12.2. Persistence and degradability**

Not easily bio-degradable (according to OECD-criteria). Do not allow to enter into surface water or drains.

**12.3. Bioaccumulative potential**

No data available

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
68411-46-1	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	7,11

**BCF**

CAS No	Chemical name	BCF	Species	Source
68411-46-1	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	411	Cyprinus carpio	Study report (2000)

**12.4. Mobility in soil**

If product enters soil, it will be mobile and may contaminate groundwater. Due to its low solubility in water the product is almost completely mechanically separated in biological waste water treatment plants.

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**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. 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****Disposal recommendations**

Must not be disposed of with domestic refuse. Do not allow to enter into surface water or drains.

**List of Wastes Code - residues/unused products**

130112 OIL WASTES AND WASTES OF LIQUID FUELS (EXCEPT EDIBLE OILS, AND THOSE IN CHAPTERS 05, 12 AND 19); waste hydraulic oils; readily biodegradable hydraulic oils; hazardous waste

**Contaminated packaging**

Contaminated packages must be completely emptied and can be re-used following proper cleaning. Dispose of waste according to applicable legislation. Packing which cannot be properly cleaned must be thrown away.

**SECTION 14: Transport information****Land transport (ADR/RID)**

**14.1. UN number or ID number:** -  
**14.2. UN proper shipping name:** -  
**14.3. Transport hazard class(es):** -  
**14.4. Packing group:** -

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** -  
**14.2. UN proper shipping name:** -  
**14.3. Transport hazard class(es):** -  
**14.4. Packing group:** -

**Marine transport (IMDG)**

**14.1. UN number or ID number:** -  
**14.2. UN proper shipping name:** -  
**14.3. Transport hazard class(es):** -  
**14.4. Packing group:** -

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** -  
**14.2. UN proper shipping name:** -  
**14.3. Transport hazard class(es):** -  
**14.4. Packing group:** -

**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. Maritime transport in bulk according to IMO instruments**

No dangerous good in sense of these transport regulations.

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**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Water hazard class (D): 1 - slightly hazardous to water

**15.2. Chemical safety assessment**

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

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 1,2,3,4,6,7,8,9,10,11,12,16.

**Abbreviations and acronyms**

Repr: Reproductive toxicity

Aquatic Chronic: Chronic aquatic hazard

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ASTM - American Society for the Testing of Materials; ATE - Acute Toxicity Estimates; bw - Body weight; CAO - Cargo Aircraft Only; CAS - Chemical Abstracts Service; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DNEL - Derived No-Effect Level; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); EG - European Union; EN - European standards; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; OECD - Organization for Economic Co-operation and Development; PBT - Persistent, Bioaccumulative and Toxic substance; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulation concerning the International Carriage of Dangerous Goods by Rail; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

**Relevant H and EUH statements (number and full text)**

H361f	Suspected of damaging fertility.
H412	Harmful to aquatic life with long lasting effects.
EUH210	Safety data sheet available on request.

**Further Information**

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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

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