

Page 1 of 13 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II Revision date / version: 15.08.2016 / 0002 Replacing version dated / version: 25.03.2014 / 0001 Valid from: 15.08.2016 PDF print date: 15.08.2016 PAG ISO 46 YF 240 ml

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

1.1 Product identifier

(GB)

PAG ISO 46 YF 240 ml

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

Refrigeration Lubrificant, A/C Lubricant, Compressor Lubricant, Lubricant Uses advised against: No information available at present.

1.3 Details of the supplier of the safety data sheet GB

Behr Hella Service GmbH, Dr.-Manfred-Behr-Str. 1, 74523 Schwäbisch Hall, Germany Phone: +49 (0) 7907 9446 483 31, Fax: +49 (0) 7907 9446 483 73

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:

Telephone number of the company in case of emergencies:

+49 (0) 7907 9446 483 31

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard category Hazard class Skin Sens. 1 3 Aquatic Chronic

Hazard statement H317-May cause an allergic skin reaction. H412-Harmful to aquatic life with long lasting effects.

2.2 Label elements Labeling according to Regulation (EC) 1272/2008 (CLP)





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H317-May cause an allergic skin reaction. H412-Harmful to aquatic life with long lasting effects.

P280-Wear protective gloves. P333+P313-If skin irritation or rash occurs: Get medical advice/attention.

p-tert-butylphenyl-1-(2,3-epoxy)propyl ether

2.3 Other hazards

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The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

SECTION 3: Composition/information on ingredients

3.1 Substance

n.a. **3 2 Mixture**

p-tert-butylphenyl-1-(2,3-epoxy)propyl ether		
Registration number (REACH)		
Index		
EINECS, ELINCS, NLP	221-453-2	
CAS	3101-60-8	
content %	1-2	
Classification according to Regulation (EC) 1272/2008 (CLP)	Skin Sens. 1, H317	
	Aquatic Chronic 2, H411	

2,6-Di-t-butyl-4-methyl-phenol	
Registration number (REACH)	
Index	
EINECS, ELINCS, NLP	204-881-4
CAS	128-37-0
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP)	Aquatic Acute 1, H400 (M=1)
	Aquatic Chronic 1, H410 (M=1)

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.

The substances named in this section are given with their actual, appropriate classification!

For substances that are listed in appendix VI, table 3.1/3.2 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.



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Ingestion

Rinse the mouth thoroughly with water. Do not induce vomiting. Consult doctor immediately.

Never pour anything into the mouth of an unconscious person!

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1. In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours. The following may occur:

irritation of the eyes

Skin irritation possible with prolonged contact.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Water jet spray / alcohol resistant foam / CO2 / dry extinguisher Unsuitable extinguishing media None known 5.2 Special hazards arising from the substance or mixture In case of fire the following can develop: Oxides of carbon Toxic gases

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Protective respirator with independent air supply. According to size of fire Full protection, if necessary. Cool container at risk with water. Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure sufficient supply of air. Avoid contact with eyes or skin. If applicable, caution - risk of slipping.

6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent from entering drainage system.

Prevent surface and ground-water infiltration, as well as ground penetration.

If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

Ensure sufficient supply of air.



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Avoid contact with eyes. Avoid long lasting or intensive contact with skin. Eating, drinking, smoking, as well as food-storage, is prohibited in work-room. Observe directions on label and instructions for use.

7.1.1 General recommendations

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.

Not to be stored in gangways or stair wells.

Store product closed and only in original packing. Store in a well-ventilated place.

Store cool.

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7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

œ	Chemica	al Name	2,6-Di-t-butyl-4-m	ethyl-phenol		Content %:0,1- <1
W	EL-TWA:	10 mg/m3		WEL-STEL:		
M	onitoring p	rocedures:				
B	MGV:				Other information:	

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.

** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

2,6-Di-t-butyl-4-methyl- Area of application	Exposure route /	Effect on health	Decorinte	Value	Unit	Note
Area of application	•	Effect on health	Descripto	value	Unit	Note
	Environmental		r			
	compartment					
	Environment - soil		PNEC	1,04	mg/kg wwt	
	Environment - sewage		PNEC	100	mg/l	
	treatment plant					
	Environment - sediment		PNEC	1,29	mg/kg wwt	
	Environment - marine		PNEC	0,4	µg/l	
	Environment - periodic		PNEC	4	µg/l	
	release					
	Environment - freshwater		PNEC	4	µg/l	
	Environment - oral (animal		PNEC	16,7	mg/kg	
	feed)					
	Environment - soil		PNEC	1,23	mg/kg	
Consumer	Human - inhalation	Long term, systemic	DNEL	1,74	mg/m3	
		effects			5	
Consumer	Human - dermal	Long term, systemic	DNEL	5	mg/kg	
		effects			bw/d	



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Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	5,8	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	8,3	mg/kg bw/day	

8.2 Exposure controls

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8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction. If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn. Applies only if maximum permissible exposure values are listed here.

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection: Tight fitting protective goggles (EN 166) with side protection, with danger of projections.

Skin protection - Hand protection: Chemical resistant protective gloves (EN 374). Protective hand cream recommended.

Skin protection - Other: Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection: Normally not necessary. In case of emergency: Protective respirator with independent air supply.

Thermal hazards: Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents. Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account. Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use. The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: Colour: Odour: Odour threshold: pH-value: Melting point/freezing point: Initial boiling point and boiling range: roperties Liquid Yellow Characteristic Not determined n.a. <-25 °C Not determined



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Flash point: Evaporation rate: Flammability (solid, gas): Lower explosive limit: Upper explosive limit: Vapour pressure: Vapour density (air = 1): Density: Bulk density: Solubility(ies): Water solubility: Partition coefficient (n-octanol/water): Auto-ignition temperature: Decomposition temperature: Viscosity: Explosive properties: Oxidising properties: 9.2 Other information

Miscibility: Fat solubility / solvent: Conductivity: Surface tension: Solvents content: >230 °C Not determined Not determined Not determined Not determined Not determined Not determined 0,9895 g/cm3 (20°C) n.a. Not determined Insoluble Not determined Not determined Not determined 44,6 mm2/s Product is not explosive. No

Not determined Not determined Not determined Not determined Not determined

SECTION 10: Stability and reactivity

10.1 Reactivity

The product has not been tested.
10.2 Chemical stability
Stable with proper storage and handling.
10.3 Possibility of hazardous reactions
No dangerous reactions are known.
10.4 Conditions to avoid
Heating, open flame, ignition sources
10.5 Incompatible materials
Avoid contact with strong oxidizing agents.
Avoid contact with strong acids.
10.6 Hazardous decomposition products

No decomposition when used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Possibly more information on health effects, see Section 2.1 (classification).

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal						n.d.a.
route:						
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye						n.d.a.
damage/irritation:						
Respiratory or skin						Sensitising
sensitisation:						(skin contact)
Germ cell mutagenicity:						n.d.a.



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	1	1				
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT- RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.
p-tert-butylphenyl-1-(2,3-epo	xy)propyl etł					
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 425 (Acute Oral Toxicity - Up-and- Down Procedure)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
2,6-Di-t-butyl-4-methyl-pheno	ol					
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>5000	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Skin corrosion/irritation:						Slightly irritant
Serious eye damage/irritation:				Rabbit	(Draize-Test)	Slightly irritant
Respiratory or skin sensitisation:				Human being		Not sensitizising
Germ cell mutagenicity:					(Ames-Test)	Negative
Germ cell mutagenicity:				Mammalian		Negative
Reproductive toxicity:	NOAEL	100	mg/kg	Rat		
Specific target organ toxicity - repeated exposure (STOT- RE):	NOEL	25	mg/kg	Rat		(28 d)
Symptoms:						mucous membrane irritation

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

PAG ISO 46 YF 240 ml							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to							n.d.a.
daphnia:							
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and	BOD		28	%			Not readily
degradability:							biodegradable
12.2. Persistence and	ThOD		16	%			Not readily
degradability:							biodegradable
12.3. Bioaccumulative							Not to be
potential:							expected



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12.4. Mobility in soil:				The product is water-soluble and can be dispersed in aqueous systems.
12.5. Results of PBT			r	n.d.a.
and vPvB assessment				
12.6. Other adverse			r	n.d.a.
effects:				
Other information:			1	Aquatic
			(Chronic 3

p-tert-butylphenyl-1-(2,3-epoxy)propyl ether									
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes		
12.1. Toxicity to fish:	LC50	96h	7,5	mg/l	Oncorhynchus	OECD 203			
				_	mykiss	(Fish, Acute			
						Toxicity Test)			
12.1. Toxicity to	EC50	48h	67,9	mg/l	Daphnia magna	OECD 202			
daphnia:						(Daphnia sp.			
						Acute			
						Immobilisation			
						Test)			
12.1. Toxicity to algae:	EC50	72h	9	mg/l	Pseudokirchnerie	OECD 201			
					lla subcapitata	(Alga, Growth			
						Inhibition Test)			

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,199	mg/l		QSAR	
12.1. Toxicity to fish:	NOEC/NOEL	42d	0,053	mg/l	Oryzias latipes	OECD 210	
·				C C		(Fish, Early-Life	
						Stage Toxicity	
						Test)	
12.1. Toxicity to	EC50	48h	0,48	mg/l	Daphnia magna	OECD 202	
daphnia:				_		(Daphnia sp.	
						Acute	
						Immobilisation	
						Test)	
12.1. Toxicity to	NOEC/NOEL	21d	0,023	mg/l	Daphnia magna	OECD 202	
daphnia:						(Daphnia sp.	
						Acute	
						Immobilisation	
						Test)	
12.1. Toxicity to algae:	EC50	72h	>0,4	mg/l	Scenedesmus	OECD 201	
					subspicatus	(Alga, Growth	
						Inhibition Test)	
12.1. Toxicity to algae:	NOEC/NOEL	72h	1	mg/l		OECD 201	
						(Alga, Growth	
						Inhibition Test)	
12.2. Persistence and		28d	4,5	%		OECD 301 C	Not readily
degradability:						(Ready	biodegradable
						Biodegradability -	
						Modified MITI	
(0.0. D)						Test (I))	=0.1
12.3. Bioaccumulative			230-		Cyprinus caprio	OECD 305	56d
potential:			2500			(Bioconcentration	
						- Flow-Through	
						Fish Test)	



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12.3. Bioaccumulative potential:	Log Pow		5,1			
12.5. Results of PBT						 No PBT
and vPvB assessment						substance
Toxicity to bacteria:	EC50	3h	>10000	mg/l	activated sludge	
Other information:						Does not contain any organically bound halogens which can contribute to the AOX value in waste water.
Water solubility:			0,00076	g/l		

SECTION 13: Disposal considerations

13.1 Waste treatment methods For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be

allocated under certain circumstances. (2014/955/EU)

13 02 06 synthetic engine, gear and lubricating oils

Recommendation:

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Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. suitable incineration plant.

For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Uncontaminated packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

SECTION 14: Transport information

General statements	
14.1. UN number:	n.a.
Transport by road/by rail (ADR/RID)	
14.2. UN proper shipping name:	
14.3. Transport hazard class(es):	n.a.
14.4. Packing group:	n.a.
Classification code:	n.a.
LQ (ADR 2015):	n.a.
14.5. Environmental hazards:	Not applicable
Tunnel restriction code:	
Transport by sea (IMDG-code)	
14.2. UN proper shipping name:	
14.3. Transport hazard class(es):	n.a.
14.4. Packing group:	n.a.
Marine Pollutant:	n.a
14.5. Environmental hazards:	Not applicable
Transport by air (IATA)	
14.2. UN proper shipping name:	



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14.3. Transport hazard class(es):14.4. Packing group:14.5. Environmental hazards:

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 MARPOL and the IBC Code

Non-dangerous material according to Transport Regulations.

SECTION 15: Regulatory information

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

For classification and labelling see Section 2. Observe restrictions:

Comply with trade association/occupational health regulations. Directive 2010/75/EU (VOC):

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections:

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These details refer to the product as it is delivered. Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Skin Sens. 1, H317	Classification according to calculation procedure.
Aquatic Chronic 3, H412	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

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.

Skin Sens. — Skin sensitization Aquatic Chronic — Hazardous to the aquatic environment - chronic Aquatic Acute — Hazardous to the aquatic environment - acute

Any abbreviations and acronyms used in this document:

AC Article Categories acc., acc. to according, according to ACGIHAmerican Conference of Governmental Industrial Hygienists ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road) AOEL Acceptable Operator Exposure Level AOX Adsorbable organic halogen compounds approx. approximately

n.a. n.a. Not applicable



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