

250305 PAG Refrigeration Lubricant 46

Safety Data Sheet

according to Regulation (EC) No. 453/2010

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Version: 2.0

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

1.1. Product identifier

Trade name : 250305 PAG Refrigeration Lubricant 46
Product code : 250305

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only
Use of the substance/mixture : Polyalkylene Glycol based lubricant for use in air conditioning systems.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Holger Christiansen A/S – A Bosch Group Company
Hedelundvej 13
6705 Esbjerg Ø
Denmark
www.hc-cargo.com

1.4. Emergency telephone number

Emergency number : Holger Christiansen A/S: +45 76 14 33 22
Giftlinjen (In case of intoxication/poisoning): +45 82121212

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Sens. 1 H317

STOT SE 2 H371

Aquatic Chronic 3 H412

Full text of H-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07



GHS08



GHS09

Signal word (CLP) : Warning

Hazard statements (CLP) : H317 - May cause an allergic skin reaction
H371 - May cause damage to organs
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (CLP) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P264 - Wash thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P272 - Contaminated work clothing should not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of water
P308 + P311 - IF exposed or concerned: Call a POISON CENTER/doctor
P321 - Specific treatment (see on this label)
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse
P405 - Store locked up
P501 - Dispose of contents / container in accordance with local / regional / national / international regulations.

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2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
tricresyl phosphates, mixture of isomers, conc o-tricresyl phosphate>95%	(CAS No) 1330-78-5 (EC no) 215-548-8	1 - 2	T; R39/23/24/25 N; R51/53
2,6-di-tert-butyl-p-cresol	(CAS No) 128-37-0 (EC no) 204-881-4	0.1 - 1	N; R50/53
3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexylcarboxylate	(CAS No) 2386-87-0 (EC no) 219-207-4	0.1 - 1	R43

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
tricresyl phosphates, mixture of isomers, conc o-tricresyl phosphate>95%	(CAS No) 1330-78-5 (EC no) 215-548-8	1 - 2	STOT SE 1, H370 Aquatic Chronic 2, H411
2,6-di-tert-butyl-p-cresol	(CAS No) 128-37-0 (EC no) 204-881-4	0.1 - 1	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexylcarboxylate	(CAS No) 2386-87-0 (EC no) 219-207-4	0.1 - 1	Skin Sens. 1, H317

Full text of R- and H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Assure fresh air breathing. Allow the victim to rest.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries	: Not expected to present a significant hazard under anticipated conditions of normal use.
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4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

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6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use.
Incompatible products : Strong bases. Strong acids.
Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2,6-di-tert-butyl-p-cresol (128-37-0)		
Belgium	Limit value (mg/m ³)	2 mg/m ³
France	VME (mg/m ³)	2,6-Di-tert-butyl-p-crésol, 10 mg/m ³ ; France; Time-weighted average exposure limit 8 h; VL: Valeur non réglementaire indicative
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³
USA - ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.
Hand protection : The use of gloves impervious to the specific material handled is advised to prevent skin contact. Suggested protective material: Nitrile, 4.5 mil thickness, tested at 3.5 ml and above with no breakthrough time after 240 minutes.
Eye protection : Chemical goggles or safety glasses.
Respiratory protection : Where there is potential for airborne exposure above the exposure limit an approved air purifying respirator equipped with Type P2 - Medium efficiency particle filters may be used.
Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear.
Colour : Colorless to Yellowish.
Odour : Characteristic.
Odour threshold : No data available
pH : No data available
Relative evaporation rate (butylacetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : > 200 °C Calculated
Flash point : 174 °C Closed Cup
Self ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : Non flammable.
Vapour pressure : No data available
Relative vapour density at 20 °C : No data available
Relative density : No data available

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Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: 41.4 - 50.6 cSt @40°C
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

2,6-di-tert-butyl-p-cresol (128-37-0)	
LD50 oral rat	890 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; >6000 mg/kg bodyweight; Rat)
LD50 dermal rat	> 2000 mg/kg (Rat; Literature study; OECD 402: Acute Dermal Toxicity; >2000 mg/kg bodyweight; Rat; Experimental value)

3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexylcarboxylate (2386-87-0)	
LD50 oral rat	4490 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value; 5000 mg/kg bodyweight; Rat)
LD50 dermal rat	> 2000 mg/kg (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	> 20 mg/l/4h (Rat)

Skin corrosion/irritation	: Not classified Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Not classified Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: May cause an allergic skin reaction. Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: May cause damage to organs. Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	: Not classified Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met

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Viscosity, kinematic	41.4 - 50.6 mm ² /s @40°C
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Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Toxic to aquatic life.

2,6-di-tert-butyl-p-cresol (128-37-0)

LC50 fishes 1	0.199 mg/l (96 h; Pisces)
EC50 Daphnia 1	0.48 mg/l (48 h; Daphnia magna; GLP)
Threshold limit algae 1	> 0.4 mg/l (72 h; Scenedesmus subspicatus; GLP)
Threshold limit algae 2	0.363 mg/l (Algae; Chronic)

3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexylcarboxylate (2386-87-0)

LC50 fishes 1	24 mg/l (96 h; Oncorhynchus mykiss; GLP)
EC50 Daphnia 1	40 mg/l (48 h; Daphnia magna; GLP)
Threshold limit algae 1	> 110 mg/l (72 h; Pseudokirchneriella subcapitata; GLP)

12.2. Persistence and degradability

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Persistence and degradability	Not established.
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tricresyl phosphates, mixture of isomers, conc o-tricresyl phosphate>95% (1330-78-5)

Persistence and degradability	Readily biodegradable in water.
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2,6-di-tert-butyl-p-cresol (128-37-0)

Persistence and degradability	Not readily biodegradable in water. Biodegradable in the soil. Adsorbs into the soil. Low potential for mobility in soil. Photooxidation in the air.
Biochemical oxygen demand (BOD)	0.51 g O ₂ /g substance
Chemical oxygen demand (COD)	2.27 g O ₂ /g substance
ThOD	2.977 g O ₂ /g substance
BOD (% of ThOD)	0.17 % ThOD

3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexylcarboxylate (2386-87-0)

Persistence and degradability	Readily biodegradable in water. Biodegradability in soil: no data available. Low potential for adsorption in soil. Highly mobile in soil.
ThOD	2.16 g O ₂ /g substance

12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
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tricresyl phosphates, mixture of isomers, conc o-tricresyl phosphate>95% (1330-78-5)

Log Pow	5.11 (Experimental value)
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2,6-di-tert-butyl-p-cresol (128-37-0)

BCF fish 1	230 - 2500 (56 days; Cyprinus carpio)
Log Pow	5.1 (Experimental value)
Bioaccumulative potential	Potential for bioaccumulation (500 ≤ BCF ≤ 5000).

3,4-epoxycyclohexylmethyl-3,4-epoxycyclohexylcarboxylate (2386-87-0)

Log Pow	1.34 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

2,6-di-tert-butyl-p-cresol (128-37-0)

Ecology - soil	May be harmful to plant growth, blooming and fruit formation.
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12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

: Avoid release to the environment

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

No dangerous good in sense of transport regulations

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

14.6.1. Overland transport

14.6.2. Transport by sea

14.6.3. Air transport

14.6.4. Inland waterway transport

Not subjected to ADN : No

14.6.5. Rail transport

Carriage prohibited (RID) : No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no REACH candidate substance

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Other information : None.

Full text of R-, H- and EUH-phrases::

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — AcuteHazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Skin Sens. 1	Sensitisation — Skin, category 1
STOT SE 1	Specific target organ toxicity — single exposure, Category 1
STOT SE 2	Specific target organ toxicity — Single exposure, Category 2
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H370	Causes damage to organs
H371	May cause damage to organs
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
R43	May cause sensitisation by skin contact
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
N	Dangerous for the environment
T	Toxic

SDS EU (REACH Annex II)

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