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18.09.2023**DIVINOL BOHR- UND LUFTHAMMERÖL UNIVERSAL****Article No.: 06040**

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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

Lubricant

1.3. Details of the supplier of the safety data sheet

Company name:	Zeller+Gmelin GmbH & Co. KG	
Street:	Schlossstr. 20	
Place:	D-73054 Eisingen	
Telephone:	+49 (0) 7161 / 802-0	Telefax: +49 (0) 7161 / 802-290
E-mail:	info@zeller-gmelin.de	
Contact person:	Thorsten Grönig	Telephone: +49 (0) 7161 / 802-268
E-mail:	produktsicherheit@zeller-gmelin.de	
Internet:	www.zeller-gmelin.de	
Responsible Department:	Produktsicherheit / Product Safety	

1.4. Emergency telephone number:

GBK/Infotrac ID 103334 international: (001) 352 323 3500

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008

Skin Sens. 1; H317

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Hazard components for labelling

dibutyl[[bis[(2-ethylhexyl)oxy]phosphinothioyl]thio]succinate

Signal word: Warning**Pictograms:****Hazard statements**

H317 May cause an allergic skin reaction.

Precautionary statements

P102	Keep out of reach of children.
P261	Avoid breathing mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves and eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of Water and soap.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

No further relevant information available.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Chemical characterization**

Mineral oil-based mixture. Mineral oil with DMSO extract < 3 % as measured by IP 346.

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Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
68413-48-9	dibutyl[[bis[(2-ethylhexyl)oxy]phosphinothioyl]thio]succinate			1 - < 2.5 %
	270-220-1		01-2120786863-37	
	Skin Sens. 1B, Aquatic Chronic 4; H317 H413			

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		
68413-48-9	270-220-1	dibutyl[[bis[(2-ethylhexyl)oxy]phosphinothioyl]thio]succinate	1 - < 2.5 %
	oral: LD50 = 11300 mg/kg		

SECTION 4: First aid measures
4.1. Description of first aid measures
General information

When in doubt or if symptoms are observed, get medical advice. If unconscious but breathing normally, place in recovery position and seek medical advice. Remove contaminated, saturated clothing immediately.

After inhalation

Remove casualty to fresh air and keep warm and at rest.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

If swallowed, rinse mouth with water (only if the person is conscious). Let water be drunk in little sips (dilution effect). Call a physician immediately. Do NOT induce vomiting.

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

When in doubt or if symptoms are observed, get medical advice.

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

No information available.

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

alcohol resistant foam, Extinguishing powder, Carbon dioxide (CO₂).

Unsuitable extinguishing media

Full water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products: Carbon monoxide Carbon dioxide (CO₂). Do not inhale explosion and combustion gases.

5.3. Advice for firefighters

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

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Do not allow to enter into soil/subsoil.

SECTION 6: Accidental release measures

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6.1. Personal precautions, protective equipment and emergency procedures
General advice

Protective measures: see section 7 + 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Clean contaminated articles and floor according to the environmental legislation.

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.

6.4. Reference to other sections

Protective measures: see section 7 + 8.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Advice on safe handling

Use personal protection equipment. Do not eat, drink or smoke when using this product. Provide fresh air. Handle and open container with care. Conditions to avoid: generation/formation of aerosols.

Advice on protection against fire and explosion

No special measures are necessary.

Advice on general occupational hygiene

When using do not eat, drink, smoke, sniff.

7.2. Conditions for safe storage, including any incompatibilities
Requirements for storage rooms and vessels

Protect against: Frost. Keep away from heat. Protect from direct sunlight. Keep container tightly closed in a cool, well-ventilated place.

7.3. Specific end use(s)

Observe technical data sheet.

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

CAS No	Substance	Exposure route	Effect	Value
68413-48-9	dibutyl[[bis[(2-ethylhexyl)oxy]phosphinothioyl]thio]succinate			
Worker DNEL, long-term		dermal	systemic	14 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	49,3 mg/m ³
Consumer DNEL, long-term		dermal	systemic	5 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	8,7 mg/m ³
Consumer DNEL, long-term		oral	systemic	5 mg/kg bw/day

Additional advice on limit values

- a no restriction
- b End of exposure or end of shift
- c at long-term exposure:
- d before next shift

Y: A risk of reproductive effects needs not to be feared if the occupational exposure limit value (AGW) and the biological limit value (BGW) is kept

Z: A risk of reproductive effects cannot to be excluded if the occupational exposure limit value (AGW) and the biological limit value (BGW) is kept

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blood (B)

Urine (U)

8.2. Exposure controls
Appropriate engineering controls

See section 7. No additional measures necessary.

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

Eye glasses with side protection (EN ISO 16321).

Hand protection

Wear suitable gloves. Recommended glove articles: EN ISO 374. Suitable material: NBR (Nitrile rubber). Breakthrough time: > 480 min (Thickness of the glove material: 0.4 mm). Breakthrough times and swelling properties of the material must be taken into consideration. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

Skin protection

Protective clothing.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required. When splashes or fine mist form, a permitted breathing apparatus suitable for these purposes must be used. Suitable respiratory protection apparatus: Filtering Half-face mask (EN 149), e.g. FFA P / FFP3.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	yellowish
Odour:	characteristic

	Test method
Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Flammability:	not determined
Lower explosion limits:	0,6 vol. %
Upper explosion limits:	6,5 vol. %
Flash point:	> 180 °C EN ISO 2592
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
pH-Value:	not applicable
Viscosity / kinematic: (at 40 °C)	22 mm ² /s ASTM D 7042
Water solubility:	insoluble
Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 20 °C)	< 0,1 hPa
Density (at 15 °C):	0,91 g/cm ³ DIN EN ISO 12185
Relative vapour density:	not determined
Particle characteristics:	not applicable

9.2. Other information
Other safety characteristics

Pour point:	< -35 °C ASTM D 7346
Viscosity / dynamic:	not determined
Flow time:	not determined

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Further Information

No further relevant information available.

SECTION 10: Stability and reactivity
10.1. Reactivity

No information available.

10.2. Chemical stability

No information available.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No information available.

SECTION 11: Toxicological information
11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Acute toxicity

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

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
68413-48-9	dibutyl[[bis[(2-ethylhexyl)oxy]phosphinothioyl]thio]succinate				
	oral	LD50 mg/kg	11300	Rat	ECHA OECD 401

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

May cause an allergic skin reaction. (dibutyl[[bis[(2-ethylhexyl)oxy]phosphinothioyl]thio]succinate)

Carcinogenic/mutagenic/toxic effects for reproduction

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
Other information

Keeping to the general worker's protection rules and the industrial hygienics, there is no risk in handling this product through the personnel.

SECTION 12: Ecological information

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12.1. Toxicity

There are no data available on the mixture itself.

12.2. Persistence and degradability

There are no data available on the mixture itself.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
68413-48-9	dibutyl[[bis[(2-ethylhexyl)oxy]phosphinothioyl]thio]succinate			
	OECD 301B	12,1 %	28	
	Not readily biodegradable (according to OECD criteria)			

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
68413-48-9	dibutyl[[bis[(2-ethylhexyl)oxy]phosphinothioyl]thio]succinate	6,5

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

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

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

SECTION 13: Disposal considerations
13.1. Waste treatment methods
Disposal recommendations

Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

List of Wastes Code - residues/unused products

130205 OIL WASTES AND WASTES OF LIQUID FUELS (EXCEPT EDIBLE OILS, AND THOSE IN CHAPTERS 05, 12 AND 19); waste engine, gear and lubricating oils; mineral-based non-chlorinated engine, gear and lubricating oils; hazardous waste

Contaminated packaging

Non-contaminated packages may be recycled. Consult the appropriate local waste disposal expert about waste disposal.

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

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.
Marine pollutant:	NO

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
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14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.

14.4. Packing group: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No data available

14.7. Maritime transport in bulk according to IMO instruments

No data available

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

Restrictions on use (REACH, annex XVII):
Entry 3, Entry 75

Directive 2010/75/EU on industrial emissions: 0 %

Information according to Directive 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Water hazard class (D): 2 - obviously 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): 1,8,15.

Abbreviations and acronyms

Skin Sens: Skin sensitisation

Aquatic Chronic: Chronic aquatic hazard

ADR: Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement concernant le transport international ferroviaire des marchandises dangereuses (Regulations concerning the International Carriage of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

CAS: Chemical Abstracts Service (a division of the American Chemical Society)

DNEL/DMEL: Derived No-Effect Level / Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

WEL (UK): Workplace Exposure Limits

TWA (EC): Time-Weighted Average

STEL (EC): Short Term Exposure Limit

ATE: Acute Toxicity Estimate

LD50: Lethal Dose, 50% (median lethal dose)

LC50: Lethal Concentration, 50% (median lethal concentration)

EC50: half maximal Effective Concentration

ErC50: EC50 in terms of reduction of growth rate

AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Skin Sens. 1; H317	Calculation method

Relevant H and EUH statements (number and full text)

Safety Data Sheet

according to Regulation (EC) No 1907/2006

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H317 May cause an allergic skin reaction.
H413 May cause long lasting harmful effects to aquatic life.

Further Information

Safety Data Sheet according to COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006

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.

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