

Safety Data Sheet
according to Regulation (EC) No. 1907/2006 (REACH)



Trade name : FLEXOLUB-M0
Revision date : 06.03.2020
Print date : 06.03.2020

Version (Revision) : 2.1.0 (2.0.0)

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

1.1 Product identifier

FLEXOLUB-M0

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

Relevant identified uses

Product Categories [PC]

PC24 - Lubricants, greases, release products

1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

Harmonic Drive SE

Street : Hoenbergstraße 14

Postal code/city : 65555 LIMBURG (GERMANY)

Telephone : +49 6431/5008-0

Telefax : +49 6431/5008-119

E-mail : customercare@harmonicdrive.de

1.4 Emergency telephone number

+49 6431/5008-0

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

None

2.2 Label elements

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

Special rules for supplemental label elements for certain mixtures

EUH208 Contains Benzenesulfonic acids, di-C10-14-alkyl, derivatives, calcium salts. May produce an allergic reaction.

EUH210 Safety data sheet available on request.

2.3 Other hazards

None

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous ingredients

1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-dodecanethiol ; REACH registration No. : 01-2119983498-16-xxxx ; EC No. : 939-692-2; CAS No. : 1474044-73-9

Weight fraction : $\geq 1 - < 5 \%$

Classification 1272/2008 [CLP] : Aquatic Chronic 3 ; H412

Further ingredients

Ester oil

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Inorganic solid compounds

Additives not to declare

Additional information

Full text of H- and EUH-phrases: see section 16.

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.

Following inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. In case of respiratory tract irritation, consult a physician.

In case of skin contact

Remove contaminated, saturated clothing immediately. Wash immediately with: Water and soap In case of skin irritation, consult a physician.

After eye contact

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water. Let water be drunken in little sips (dilution effect). Get medical advice/attention if you feel unwell.

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

None

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry extinguishing powder. Carbon dioxide (CO₂). ABC-powder. BC-powder. Foam. Dry sand.

Unsuitable extinguishing media

Water. Strong water jet. High power water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon monoxide (CO). Carbon dioxide (CO₂). Burning produces heavy smoke.

5.3 Advice for firefighters

Use suitable breathing apparatus.

5.4 Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

Special danger of slipping by leaking/spilling product.

6.1 Personal precautions, protective equipment and emergency procedures

None

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6.2 Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Ensure waste is collected and contained. Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

6.3 Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal. Soak up inert absorbent and dispose as waste requiring special attention. Suitable material for taking up: Universal binder. Kieselguhr.

6.4 Reference to other sections

None

SECTION 7: Handling and storage



7.1 Precautions for safe handling

Protective measures

It is recommended to design all work processes always so that the following is excluded: Generation/formation of mist. Avoid: Inhalation of vapours or spray/mists. Skin contact, Eye contact. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff.

7.2 Conditions for safe storage, including any incompatibilities

Hints on joint storage

Storage class : 11

Storage class (TRGS 510) : 11

Keep away from

Food and feedingstuffs

Further information on storage conditions

Keep/Store only in original container. Keep container tightly closed. Protect against UV-radiation/sunlight. Humidity. Contact with air/oxygen. Dust deposits.

7.3 Specific end use(s)

None

SECTION 8: Exposure controls/personal protection

Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and after work. Take the precautions customary when handling chemicals. Change contaminated, saturated clothing. Keep away from sources of ignition - No smoking.

8.1 Control parameters

Occupational exposure limit values

2,6-di-tert-butyl-p-cresol (BHT) ; CAS No. : 128-37-0

Limit value type (country of origin) : TRGS 900 (D)

Parameter : E: inhalable fraction

Limit value : 10 mg/m³

Peak limitation : 4(II)

Remark : Y

Version : 01.09.2012

8.2 Exposure controls

Personal protection equipment

Eye/face protection

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Eye protection: not required. Avoid: Eye contact.

Recommended eye protection articles

DIN EN 166

Skin protection

Hand protection

Wear suitable gloves.

By long-term hand contact : Tested protective gloves must be worn

Suitable material : PE (Polyethylene). NR (natural rubber, natural latex). NBR (Nitrile rubber).

Breakthrough time (maximum wearing time) : PE < 30 min. ; NR < 10 min.; NBR > 480 min.

Thickness of the glove material : min. 0,38 mm

Recommended glove articles : EN ISO 374; DIN EN 420 Uvex. KCL, MAPA. Or comparable articles from other companies.

Respiratory protection

No special measures are necessary. Avoid: Inhalation of vapours or spray/mists

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Colour : dark green

Odour : characteristic

Safety relevant basis data

Physical state :				pasty
Initial boiling point and boiling range :	(1013 hPa)	>	300	°C
Decomposition temperature :	(1013 hPa)	>	250	°C
Flash point :	(1013 hPa)	>	200	°C
Vapour pressure :	(50 °C)	<	0,1	hPa
Density :	(20 °C)	=	0,95	g/cm ³
Water solubility :	(20 °C)	<<	0,1	Wt %
pH :	(20 °C / 10 g/l)			not applicable

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

No information available.

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Strong acid. Strong alkali.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

Oxidising agent, strong.

10.6 Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂). Gases/vapours, harmful.

SECTION 11: Toxicological information

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11.1 Information on toxicological effects

Acute effects

By analogy:

Acute oral toxicity

Parameter : LD50
Exposure route : Oral
Species : Rat
Effective dose : > 2000 mg/kg

Acute dermal toxicity

Parameter : LD50
Exposure route : Dermal
Species : Rabbit
Effective dose : > 2000 mg/kg

Acute inhalation toxicity

Parameter : LD50 (1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-dodecanethiol ; CAS No. : 1474044-73-9)
Exposure route : Inhalation (dust/mist)
Species : Rat
Effective dose : > 2,75 mg/l
Exposure time : 4 h
Method : OECD 403
Source : Published on the ECHA website

Sensitisation

In case of skin contact

Parameter : Skin sensitisation (1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-dodecanethiol ; CAS No. : 1474044-73-9)
Species : Guinea pig
Result : Not sensitising.
Method : OECD 406

STOT-single exposure

STOT SE 3

Parameter : NOAEL(C) (1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-dodecanethiol ; CAS No. : 1474044-73-9)
Exposure route : Oral
Species : Rat
Effective dose : = 250 mg/kg

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Acute (short-term) fish toxicity

Parameter : LC50 (1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-dodecanethiol ; CAS No. : 1474044-73-9)
Species : Pimephales promelas (Fathead minnow)
Evaluation parameter : Acute (short-term) fish toxicity
Effective dose : > 1000 mg/l
Exposure time : 96 h

Acute (short-term) daphnia toxicity

Parameter : EC50 (1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-dodecanethiol ; CAS No. : 1474044-73-9)

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Species : Daphnia magna (Big water flea)
Evaluation parameter : Acute (short-term) daphnia toxicity
Effective dose : = 41 mg/l
Exposure time : 48 h

Chronic (long-term) daphnia toxicity

Parameter : LOEC (1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-dodecanethiol ; CAS No. : 1474044-73-9)

Species : Daphnia magna (Big water flea)
Evaluation parameter : Chronic (long-term) daphnia toxicity
Effective dose : > 100 mg/l
Exposure time : 72 d

Acute (short-term) algae toxicity

Parameter : EC50 (1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-dodecanethiol ; CAS No. : 1474044-73-9)

Species : Pseudokirchneriella subcapitata
Evaluation parameter : Acute (short-term) algae toxicity
Effective dose : > 100 mg/l
Exposure time : 72 h

Bacteria toxicity

Parameter : EC50 (1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-dodecanethiol ; CAS No. : 1474044-73-9)

Species : Pseudomonas putida
Evaluation parameter : Bacteria toxicity
Effective dose : > 8000 mg/l
Exposure time : 16 h

12.2 Persistence and degradability

Biodegradation

Parameter : Biodegradation
Inoculum : Degree of elimination
Evaluation parameter : Aerobic
Effective dose : > 70 Wt %
Exposure time : 21 d
Evaluation : Readily biodegradable (according to OECD criteria).

Overall evaluation on the mixture: Moderately/partially biodegradable.

12.3 Bioaccumulative potential

Parameter : Bioconcentration factor (BCF) (1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-dodecanethiol ; CAS No. : 1474044-73-9)

Concentration : = 3,16

Parameter : Partition coefficient: n-octanol/water (1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-dodecanethiol ; CAS No. : 1474044-73-9)

Concentration : = 8

12.4 Mobility in soil

No information 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 Other adverse effects

No information available.

12.7 Additional ecotoxicological information

None

12.8 Overall evaluation

Moderately/partially biodegradable.

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SECTION 13: Disposal considerations

Dispose according to legislation. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.1 Waste treatment methods

Send to a hazardous waste incinerator facility under observation of official regulations. Collect the waste separately. Evidence for disposal must be provided.

SECTION 14: Transport information

14.1 UN number

No dangerous good in sense of these transport regulations.

14.2 UN proper shipping name

No dangerous good in sense of these transport regulations.

14.3 Transport hazard class(es)

No dangerous good in sense of these transport regulations.

14.4 Packing group

No dangerous good in sense of these transport regulations.

14.5 Environmental hazards

No dangerous good in sense of these transport regulations.

14.6 Special precautions for user

None

SECTION 15: Regulatory information

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

National regulations

Restrictions of occupation

Not relevant

Störfallverordnung

Not subject to StörfallVO.

Emission control act (TA-Luft)

Weight fraction (Number 5.2.5. I) : < 1 %

Water hazard class (WGK)

Class : 1 (Slightly hazardous to water) Classification according to AwSV

Other regulations, restrictions and prohibition regulations

Switzerland

VOCV-Regulation

Volatile organic compounds (VOC) content in percent by weight : 0 %

Additional information

TSCA (Toxic Substances Control Act) - USA, United States of America

All chemical substances in this mixture are included on or are exempted from listing on the TSCA Inventory for Chemical Substances.

California Proposition 65 - State of California

Based on available information this product does not contain any components or chemicals currently known to the State of California to cause cancer, birth defects or reproductive harm at levels which would be subject to Proposition 65.

15.2 Chemical safety assessment

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No information available.

SECTION 16: Other information

16.1 Indication of changes

15. National regulations · 09.1 Odour

16.2 Abbreviations and acronyms

None

16.3 Key literature references and sources for data

None

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

The statement is derived from the properties of the single components.

16.5 Relevant H- and EUH-phrases (Number and full text)

H412 Harmful to aquatic life with long lasting effects.

16.6 Training advice

None

16.7 Additional information

None

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.
