

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

### 1.1 Product identifier

Product name	Tribol GR 3020/1000-2 PD
Product code	468591-DE03
SDS #	468591
Product type	Grease

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

Use of the substance/ mixture	Grease for industrial applications For specific application advice see appropriate Technical Data Sheet or consult our company representative.
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### 1.3 Details of the supplier of the safety data sheet

Supplier	Castrol Holdings Europe B.V., d'Arcyweg 76, 3198NA Europoort Rotterdam
	Castrol Hellas MAE 26A, IOANNOU APOSTOLOPOULOU, Chalandri, 15231 Greece +30 210 6887 777
E-mail address	MSDSadvice@bp.com

### 1.4 Emergency telephone number

EMERGENCY TELEPHONE NUMBER	Carechem: +44 (0) 1235 239 670 (24/7)
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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Product definition	Mixture
<u>Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]</u>	Not classified.

See sections 11 and 12 for more detailed information on health effects and symptoms and environmental hazards.

### 2.2 Label elements

Signal word	No signal word.
Hazard statements	No known significant effects or critical hazards.
<u>Precautionary statements</u>	
Prevention	Not applicable.
Response	Not applicable.
Storage	Not applicable.
Disposal	Not applicable.
Hazardous ingredients	Not applicable.
Supplemental label elements	Contains 5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione. May produce an allergic reaction. Safety data sheet available on request.

### EU Regulation (EC) No. 1907/2006 (REACH)

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not applicable.
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### Special packaging requirements

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## SECTION 2: Hazards identification

**Containers to be fitted with child-resistant fastenings** Not applicable.

**Tactile warning of danger** Not applicable.

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Product meets the criteria for endocrine disrupting properties according to Regulation (EC) No. 1907/2006.** This substance/mixture does not contain any components that are considered to have endocrine disrupting properties.

**Other hazards which do not result in classification** Defatting to the skin.  
 Note: High Pressure Applications  
 Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency.  
 See 'Notes to physician' under First-Aid Measures, Section 4 of this Safety Data Sheet.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

**Product definition** Mixture

Highly refined base oil (IP 346 DMSO extract < 3%). Proprietary performance additives. Thickening agent.

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Distillates (petroleum), hydrotreated heavy naphthenic	REACH #: 01-2119467170-45 EC: 265-155-0 CAS: 64742-52-5 Index: 649-465-00-7	≥75 - ≤90	Not classified.	-	[2]
4,4'-methylene bis (dibutyldithiocarbamate)	REACH #: 01-2119969655-20 EC: 233-593-1 CAS: 10254-57-6	≤3	Aquatic Chronic 4, H413	-	[1]
Molybdenum, bis(N,N-dibutylcarbamodithioato-κS, κS')dioxodi-μ-thioxodi-, stereoisomer	CAS: 60428-79-7	≤3	Not classified.	-	[2]
5,5'-dithiodi-1,3,4-thiadiazole-2 (3H)-thione	REACH #: 01-2120119820-64 EC: 276-763-0 CAS: 72676-55-2	<1	Skin Sens. 1B, H317 Aquatic Chronic 2, H411	-	[1]

See Section 16 for the full text of the H statements declared above.

#### Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Eye contact** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Check for and remove any contact lenses. Get medical attention.

**Skin contact** Wash skin thoroughly with soap and water or use recognised skin cleanser. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

**Inhalation** If inhaled, remove to fresh air. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. Get medical attention if symptoms occur.

**Ingestion** Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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## SECTION 4: First aid measures

**Protection of first-aiders** No action shall be taken involving any personal risk or without suitable training.

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

See Section 11 for more detailed information on health effects and symptoms.

#### Potential acute health effects

**Inhalation** Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Ingestion** No known significant effects or critical hazards.

**Skin contact** Defatting to the skin. May cause skin dryness and irritation.

**Eye contact** No known significant effects or critical hazards.

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Inhalation** Inhalation of oil mist or vapours at elevated temperatures may cause respiratory irritation.

**Ingestion** Ingestion of large quantities may cause nausea and diarrhoea.

**Eye contact** Potential risk of transient stinging or redness if accidental eye contact occurs.

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

#### Notes to physician

Treatment should in general be symptomatic and directed to relieving any effects. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Note: High Pressure Applications

Injections through the skin resulting from contact with the product at high pressure constitute a major medical emergency. Injuries may not appear serious at first but within a few hours tissue becomes swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Surgical exploration should be undertaken without delay. Thorough and extensive debridement of the wound and underlying tissue is necessary to minimise tissue loss and prevent or limit permanent damage. Note that high pressure may force the product considerable distances along tissue planes.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** In case of fire, use water fog, alcohol resistant foam, dry chemical or carbon dioxide extinguisher or spray.

**Unsuitable extinguishing media** Do not use water jet. The use of a water jet may cause the fire to spread by splashing the burning product.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** No specific fire or explosion hazard.

**Hazardous combustion products** Combustion products may include the following:  
carbon oxides (CO, CO<sub>2</sub>) (carbon monoxide, carbon dioxide)  
metal oxide/oxides  
nitrogen oxides (NO, NO<sub>2</sub> etc.)  
sulphur oxides (SO, SO<sub>2</sub>, etc.)

### 5.3 Advice for firefighters

**Special precautions for fire-fighters** No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

**Special protective equipment for fire-fighters** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

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

**For non-emergency personnel** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Floors may be slippery; use care to avoid falling. Put on appropriate personal protective equipment.

**For emergency responders** If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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## SECTION 6: Accidental release measures

<b>6.2 Environmental precautions</b>	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
<b>6.3 Methods and material for containment and cleaning up</b>	
<b>Small spill</b>	Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Avoid creating dusty conditions and prevent wind dispersal. If emergency personnel are unavailable, contain spilt material. Suction or scoop the spill into appropriate disposal or recycling vessels, then cover spill area with oil absorbent. Dispose of via a licensed waste disposal contractor.
<b>6.4 Reference to other sections</b>	See Section 1 for emergency contact information. See Section 5 for firefighting measures. See Section 8 for information on appropriate personal protective equipment. See Section 12 for environmental precautions. See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

<b>7.1 Precautions for safe handling</b>	
<b>Protective measures</b>	Put on appropriate personal protective equipment.
<b>Advice on general occupational hygiene</b>	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash thoroughly after handling. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
<b>7.2 Conditions for safe storage, including any incompatibilities</b>	
<b>Not suitable</b>	Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Store and use only in equipment/containers designed for use with this product. Do not store in unlabelled containers.  Prolonged exposure to elevated temperature
<b>7.3 Specific end use(s)</b>	
<b>Recommendations</b>	See section 1.2 and Exposure scenarios in annex, if applicable.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
Distillates (petroleum), hydrotreated heavy naphthenic	<b>Presidential Decree 307/1986: Occupational exposure limit values (Greece) [ορυκτέλαιο]</b> TWA 8 hours: 5 mg/m <sup>3</sup> . Form: mist. Issued/Revised: 5/1999.
Molybdenum, bis(N,N-dibutylcarbamo-dithioato-κS, κS')dioxodi-μ-thioxodi-, stereoisomer	<b>Presidential Decree 307/1986: Occupational exposure limit values (Greece) [εργασίες που συνεπάγονται δερματική έκθεση σε ορυκτέλαια που έχουν χρησιμοποιηθεί προηγουμένως σε κινητήρες εσωτερικής καύσης για τη λίπανση και την ψύξη των κινητών μερών εντός του κινητήρα]</b> Absorbed through skin. <b>Presidential Decree 307/1986: Occupational exposure limit values (Greece) [μολυβδένιο (αδιάλυτες ενώσεις)]</b> TWA 8 hours: 15 mg/m <sup>3</sup> (as Mo). Issued/Revised: 5/1999.
Whilst specific OELs for certain components may be shown in this section, other components may be present in any mist, vapour or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.	
<b>Recommended monitoring procedures</b>	Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

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**SECTION 8: Exposure controls/personal protection**

Biological exposure indices

**Product/ingredient name**

**Exposure indices**

No exposure indices known.

DNELs/DMELs

Not available.

**8.2 Exposure controls**

**Appropriate engineering controls**

All activities involving chemicals should be assessed for their risks to health, to ensure exposures are adequately controlled. Personal protective equipment should only be considered after other forms of control measures (e.g. engineering controls) have been suitably evaluated. Personal protective equipment should conform to appropriate standards, be suitable for use, be kept in good condition and properly maintained. Your supplier of personal protective equipment should be consulted for advice on selection and appropriate standards. For further information contact your national organisation for standards. The final choice of protective equipment will depend upon a risk assessment. It is important to ensure that all items of personal protective equipment are compatible.

Individual protection measures

**Hygiene measures**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment. The correct choice of respiratory protection depends upon the chemicals being handled, the conditions of work and use, and the condition of the respiratory equipment. Safety procedures should be developed for each intended application. Respiratory protection equipment should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

**Eye/face protection**

Safety glasses with side shields.

Skin protection

**Hand protection**

**General Information:**

Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. The correct choice of protective gloves depends upon the chemicals being handled, and the conditions of work and use. Most gloves provide protection for only a limited time before they must be discarded and replaced (even the best chemically resistant gloves will break down after repeated chemical exposures).

Gloves should be chosen in consultation with the supplier / manufacturer and taking account of a full assessment of the working conditions.

Recommended: Nitrile gloves.

**Breakthrough time:**

Breakthrough time data are generated by glove manufacturers under laboratory test conditions and represent how long a glove can be expected to provide effective permeation resistance. It is important when following breakthrough time recommendations that actual workplace conditions are taken into account. Always consult with your glove supplier for up-to-date technical information on breakthrough times for the recommended glove type.

Our recommendations on the selection of gloves are as follows:

Continuous contact:

Gloves with a minimum breakthrough time of 240 minutes, or >480 minutes if suitable gloves can be obtained.

If suitable gloves are not available to offer that level of protection, gloves with shorter breakthrough times may be acceptable as long as appropriate glove maintenance and replacement regimes are determined and adhered to.

Short-term / splash protection:

Recommended breakthrough times as above.

It is recognised that for short-term, transient exposures, gloves with shorter breakthrough times may commonly be used. Therefore, appropriate maintenance and replacement regimes must be determined and rigorously followed.

**Glove Thickness:**

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**SECTION 8: Exposure controls/personal protection**

For general applications, we recommend gloves with a thickness typically greater than 0.35 mm.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.

- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

**Skin and body**

Use of protective clothing is good industrial practice.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Cotton or polyester/cotton overalls will only provide protection against light superficial contamination that will not soak through to the skin. Overalls should be laundered on a regular basis. When the risk of skin exposure is high (e.g. when cleaning up spillages or if there is a risk of splashing) then chemical resistant aprons and/or impervious chemical suits and boots will be required.

**Refer to standards:**

- Respiratory protection: EN 529
- Gloves: EN 420, EN 374
- Eye protection: EN 166
- Filtering half-mask: EN 149
- Filtering half-mask with valve: EN 405
- Half-mask: EN 140 plus filter
- Full-face mask: EN 136 plus filter
- Particulate filters: EN 143
- Gas/combined filters: EN 14387

**Environmental exposure controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**SECTION 9: Physical and chemical properties**

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

**9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	Grease
<b>Colour</b>	Yellow.
<b>Odour</b>	Not available.
<b>Odour threshold</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flammability</b>	Not available.
<b>Lower and upper explosion limit</b>	Not applicable.
<b>Flash point</b>	Closed cup: 226°C (438.8°F) [Estimated. Based on Lubricants - Base Oils]
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	Not available.
<b>pH</b>	Not applicable.
<b>Kinematic viscosity</b>	Not available.
<b>Solubility</b>	

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## SECTION 9: Physical and chemical properties

Media	Result																				
water	Not soluble																				
<b>Partition coefficient n-octanol/water (log value)</b>	Not applicable.																				
<b>Vapour pressure</b>	Not available.																				
	<table border="1"> <thead> <tr> <th rowspan="2">Ingredient name</th> <th colspan="3">Vapour Pressure at 20 °C</th> <th colspan="3">Vapour pressure at 50 °C</th> </tr> <tr> <th>mm Hg</th> <th>kPa</th> <th>Method</th> <th>mm Hg</th> <th>kPa</th> <th>Method</th> </tr> </thead> <tbody> <tr> <td>Not available.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	Vapour Pressure at 20 °C			Vapour pressure at 50 °C			mm Hg	kPa	Method	mm Hg	kPa	Method	Not available.						
Ingredient name	Vapour Pressure at 20 °C			Vapour pressure at 50 °C																	
	mm Hg	kPa	Method	mm Hg	kPa	Method															
Not available.																					
<b>Density and/or Relative density</b>	<1000 kg/m <sup>3</sup> (<1 g/cm <sup>3</sup> ) at 20°C																				
<b>Relative vapour density</b>	Not applicable.																				
<b>Particle characteristics</b>																					
<b>Median particle size</b>	Not available.																				
<b>9.2 Other information</b>																					
<b>Evaporation rate</b>	Not available.																				
<b>Explosive properties</b>	Not available.																				
<b>Oxidising properties</b>	Not available.																				
<b>Drop Point</b>	>175 °C																				
<b>Penetration Number (0.1 mm)</b>	265 to 295 at 25°C																				

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
<b>10.2 Chemical stability</b>	The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous polymerisation will not occur.
<b>10.4 Conditions to avoid</b>	Avoid all possible sources of ignition (spark or flame).
<b>10.5 Incompatible materials</b>	Reactive or incompatible with the following materials: oxidising materials.
<b>10.6 Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Product/ingredient name	Result
4'-methylene bis(dibutylthiocarbamate)	<b>Rat - Oral - LD50</b> >5000 mg/kg OECD 401  <b>Rabbit - Dermal - LD50</b> >2000 mg/kg OECD 402
5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione	<b>Rat - Oral - LD50</b> >2000 mg/kg OECD 420  <b>Rabbit - Dermal - LD50</b> >2000 mg/kg OECD 402

#### Acute toxicity estimates

N/A

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## SECTION 11: Toxicological information

### Skin corrosion/irritation

#### Product/ingredient name

4,4'-methylene bis(dibutyldithiocarbamate)

#### Result

**Rabbit - Skin - Not irritant**  
OECD 404

5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione

**Rabbit - Skin - Not irritant**  
OECD 404

### Serious eye damage/eye irritation

#### Product/ingredient name

4,4'-methylene bis(dibutyldithiocarbamate)

#### Result

**Rabbit - Eyes - Not irritant**  
OECD 405

5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione

**Rabbit - Eyes - Not irritant**  
OECD 405

### Respiratory corrosion/irritation

Not available.

### Respiratory or skin sensitization

#### Product/ingredient name

4,4'-methylene bis(dibutyldithiocarbamate)

#### Result

**Mouse - skin**  
OECD 429  
Result: Not sensitising

5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione

**Mouse - skin**  
OECD 429  
Result: Sensitising

### Germ cell mutagenicity

#### Product/ingredient name

4,4'-methylene bis(dibutyldithiocarbamate)

#### Result

**In vitro - Bacteria**  
OECD 471  
Result: Negative

**In vitro - Mammalian-Animal**  
OECD 473  
Result: Negative

**In vitro - Mammalian-Animal**  
OECD 476  
Result: Negative

5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione

**In vitro - Bacteria**  
OECD 471  
Result: Negative

**In vitro - Mammalian-Animal**  
OECD 487  
Result: Negative

**In vitro - Mammalian-Animal**  
OECD 476  
Result: Positive

### Carcinogenicity

Not available.

## SECTION 11: Toxicological information

### Reproductive toxicity

#### Product/ingredient name

4,4'-methylene bis(dibutylthiocarbamate)

#### Result

**Rat - Oral**

OECD 422

Maternal toxicity: Negative

Fertility effects: Negative

Developmental: Negative

5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione

**Rat - Oral**

OECD 422

Maternal toxicity: Positive

Fertility effects: Negative

Developmental: Negative

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

#### Information on likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

#### Potential acute health effects

##### Inhalation

Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

##### Ingestion

No known significant effects or critical hazards.

##### Skin contact

Defatting to the skin. May cause skin dryness and irritation.

##### Eye contact

No known significant effects or critical hazards.

#### Symptoms related to the physical, chemical and toxicological characteristics

##### Inhalation

No specific data.

##### Ingestion

No specific data.

##### Skin contact

Adverse symptoms may include the following:  
irritation  
dryness  
cracking

##### Eye contact

No specific data.

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

##### Inhalation

Inhalation of oil mist or vapours at elevated temperatures may cause respiratory irritation.

##### Ingestion

Ingestion of large quantities may cause nausea and diarrhoea.

##### Eye contact

Potential risk of transient stinging or redness if accidental eye contact occurs.

#### Potential chronic health effects

Not available.

#### Conclusion/Summary [Product]

Not available.

##### General

No known significant effects or critical hazards.

##### Carcinogenicity

No known significant effects or critical hazards.

##### Mutagenicity

No known significant effects or critical hazards.

##### Developmental effects

No known significant effects or critical hazards.

##### Fertility effects

No known significant effects or critical hazards.

### 11.2 Information on other hazards

#### 11.2.1 Endocrine disrupting properties

##### Conclusion/Summary [Product]

This substance/mixture does not contain any components that are considered to have endocrine disrupting properties.

#### 11.2.2 Other information

Not available.

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**SECTION 12: Ecological information**

**12.1 Toxicity**

**Product/ingredient name**

4,4'-methylene bis(dibutyldithiocarbamate)

**Result**

**Acute - ErC50**  
 OECD 201  
 Algae  
 >0.0325 mg/l [72 hours]

**Acute - EC50**  
 OECD 202  
 Daphnia  
 >0.052 mg/l [48 hours]

**Acute - EL50**  
 OECD 203  
 Fish  
 >0.06 mg/l [96 hours]

**Chronic - NOEC**  
 OECD 211  
 Daphnia  
 0.247 mg/l [21 days]

**Chronic - NOEC**  
 OECD 201  
 Algae  
 0.0325 mg/l [72 hours]

5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione

**Acute - ErC50**  
 OECD 201  
 Algae  
 20 mg/l [72 hours]

**Acute - EC50**  
 OECD 202  
 Daphnia  
 3 mg/l [48 hours]

**Acute - EC50**  
 OECD 203  
 Fish  
 >454 mg/l [96 hours]

**Chronic - NOEC**  
 OECD 201  
 Algae  
 9.4 mg/l [72 hours]

**Environmental hazards** Not classified as dangerous

**12.2 Persistence and degradability**

Expected to be biodegradable.

**Product/ingredient name**

4,4'-methylene bis(dibutyldithiocarbamate)

**Result**

OECD 301B  
 21% [28 days] - Not readily

5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione

OECD 301B  
 0% [28 days] - Not readily

**12.3 Bioaccumulative potential**

Not available.

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
4,4'-methylene bis(dibutyldithiocarbamate)	8.42	10.86	Low
5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione	1.46	-	Low

**12.4 Mobility in soil**

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		<b>(Greece)</b>

## SECTION 12: Ecological information

### Soil/water partition coefficient

Product/ingredient name	logKoc	Koc
4,4'-methylene bis (dibutyldithiocarbamate)	3.09	1243.29
5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione	3.33	2119.52

### Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
4,4'-methylene bis (dibutyldithiocarbamate)	No	No	No	No	No	No	No
5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione	No	No	No	No	No	No	No

**Mobility** Grease. insoluble in water.

**Conclusion/Summary** The product does not meet the criteria to be considered as a PMT or vPvM.

### 12.5 Results of PBT and vPvB assessment

#### Regulation (EC) No. 1907/2006 [REACH]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
4,4'-methylene bis (dibutyldithiocarbamate)	No	N/A	No	No	No	N/A	No
5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione	No	N/A	N/A	No	N/A	N/A	N/A

#### Regulation (EC) No. 1272/2008 [CLP]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
4,4'-methylene bis (dibutyldithiocarbamate)	No	No	No	No	No	No	No
5,5'-dithiodi-1,3,4-thiadiazole-2(3H)-thione	No	No	No	No	No	No	No

**Conclusion/Summary** The product does not meet the criteria to be considered as a PBT or vPvB.

#### Regulation (EC) No. 1272/2008 [CLP]

### 12.6 Endocrine disrupting properties

**Conclusion/Summary [Product]** This substance/mixture does not contain any components that are considered to have endocrine disrupting properties.

**12.7 Other adverse effects** No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

**Hazardous waste** Yes.

#### European waste catalogue (EWC)

Waste code	Waste designation
12 01 12*	spent waxes and fats

However, deviation from the intended use and/or the presence of any potential contaminants may require an alternative waste disposal code to be assigned by the end user.

#### Packaging

**Methods of disposal** Where possible, arrange for product to be recycled. Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

Waste code	European waste catalogue (EWC)
15 01 10*	packaging containing residues of or contaminated by hazardous substances

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**SECTION 13: Disposal considerations**

**Special precautions** This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**References** Commission 2014/955/EU  
Directive 2008/98/EC

**SECTION 14: Transport information**

	<b>ADR/RID</b>	<b>ADN</b>	<b>IMDG</b>	<b>IATA</b>
<b>14.1 UN number or ID number</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>14.2 UN proper shipping name</b>	-	-	-	-
<b>14.3 Transport hazard class(es)</b>	-	-	-	-
<b>14.4 Packing group</b>	-	-	-	-
<b>14.5 Environmental hazards</b>	No.	No.	No.	No.
<b>Additional information</b>	-	-	-	-

**14.6 Special precautions for user** Not available.

**14.7 Maritime transport in bulk according to IMO instruments** Not available.

**SECTION 15: Regulatory information**

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

**EU Regulation (EC) No. 1907/2006 (REACH)**

**Annex XIV - List of substances subject to authorisation**

**Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

No listed substance

**Labelling** Not applicable.

**Other regulations**

**REACH Status** The company, as identified in Section 1, sells this product in the EU in compliance with the current requirements of REACH.

**United States inventory (TSCA 8b)** All components are active or exempted.

**Australia inventory (AIC)** All components are listed or exempted.

**Canada inventory** At least one component is not listed in DSL but all such components are listed in NDSL.

**China inventory (IECSC)** All components are listed or exempted.

**Japan inventory (CSCL)** At least one component is not listed.

**Korea inventory (KECI)** All components are listed or exempted.

**Philippines inventory (PICCS)** At least one component is not listed.

## SECTION 15: Regulatory information

**Taiwan Chemical Substances Inventory (TCSI)** All components are listed or exempted.

**Explosive precursors** Not applicable.

**Ozone depleting substances (EU 2024/590)**

Not listed.

**Prior Informed Consent (PIC) (649/2012/EU)**

Not listed.

**Persistent Organic Pollutants**

Not listed.

**EU - Water framework directive - Priority substances**

None of the components are listed.

**Seveso Directive**

This product is not controlled under the Seveso Directive.

**15.2 Chemical safety assessment**

A Chemical Safety Assessment has been carried out for one or more of the substances within this mixture. A Chemical Safety Assessment has not been carried out for the mixture itself.

## SECTION 16: Other information

### Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway  
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 CAS = Chemical Abstracts Service  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 CSA = Chemical Safety Assessment  
 CSR = Chemical Safety Report  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EINECS = European Inventory of Existing Commercial chemical Substances  
 ES = Exposure Scenario  
 EUH statement = CLP-specific Hazard statement  
 EWC = European Waste Catalogue  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 OECD = Organisation for Economic Co-operation and Development  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 RRN = REACH Registration Number  
 SADT = Self-Accelerating Decomposition Temperature  
 SVHC = Substances of Very High Concern  
 STOT-RE = Specific Target Organ Toxicity - Repeated Exposure  
 STOT-SE = Specific Target Organ Toxicity - Single Exposure  
 TWA = Time weighted average  
 UN = United Nations  
 UVCB = Complex hydrocarbon substance  
 VOC = Volatile Organic Compound  
 vPvB = Very Persistent and Very Bioaccumulative  
 Varies = may contain one or more of the following 64741-88-4 / RRN 01-2119488706-23, 64741-89-5 / RRN 01-2119487067-30, 64741-95-3 / RRN 01-2119487081-40, 64741-96-4 / RRN 01-2119483621-38, 64742-01-4 / RRN 01-2119488707-21, 64742-44-5 / RRN 01-2119985177-24, 64742-45-6, 64742-52-5 / RRN 01-2119467170-45, 64742-53-6 / RRN 01-2119480375-34, 64742-54-7 / RRN 01-2119484627-25, 64742-55-8 / RRN 01-2119487077-29, 64742-56-9 / RRN 01-2119480132-48, 64742-57-0 / RRN

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01-2119489287-22, 64742-58-1, 64742-62-7 / RRN 01-2119480472-38, 64742-63-8, 64742-65-0 / RRN 01-2119471299-27, 64742-70-7 / RRN 01-2119487080-42, 72623-85-9 / RRN 01-2119555262-43, 72623-86-0 / RRN 01-2119474878-16, 72623-87-1 / RRN 01-2119474889-13

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Classification	Justification
Not classified.	

<b>Full text of abbreviated H statements</b>	H317	May cause an allergic skin reaction.
	H411	Toxic to aquatic life with long lasting effects.
	H413	May cause long lasting harmful effects to aquatic life.
<b>Full text of classifications [CLP/GHS]</b>	Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
	Aquatic Chronic 4	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4
	Skin Sens. 1B	SKIN SENSITISATION - Category 1B

**History**

<b>Date of issue/ Date of revision</b>	30/09/2025.
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<b>Prepared by</b>	Product Stewardship

 **Indicates information that has changed from previously issued version.**

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