

**Safety data sheet**  
according to 1907/2006/EC, as amended by (EU) 2020/878

Printing date 15.09.2023

Version number 5 (replaces version 4)

Revision: 15.09.2023

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

- **1.1 Product identifier**
- **Trade name:** HarmonicGrease 4B No.2
- **Article number:** 11451
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture:** Grease
- **Uses advised against** No specific uses advised against are identified.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Harmonic Drive Systems Inc.  
6-25-3 Minami-Oi, Shinagawa-ku, Tokyo 140-0013 Japan
- 
- Tel: +81-3-5471-7800  
Fax: +81-3-5471-7811  
E-mail: [techinfo@hds.co.jp](mailto:techinfo@hds.co.jp)  
Emergency telephone number: +81-3-5471-7800
- **Importer / Supplier:**  
  
Harmonic Drive SE  
Hoenbergstrasse 14 - 65555 Limburg - Germany  
Tel: +49-6431-5008-0  
E-mail: [customercare@harmonicdrive.de](mailto: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:**



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008:**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms:** GHS08
- **Signal word:** Danger
- **Hazard statements:**  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H317 May cause an allergic skin reaction.
- **Precautionary statements:**  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves.  
P284 [In case of inadequate ventilation] wear respiratory protection.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- 2.3 Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

· **Description:** Mixture of substances listed below with nonhazardous additions.

#### · Dangerous components:

ELINCS: 445-760-8 Index number: 006-103-00-7 Reg.nr.: 01-2120106785-55-xxxx	N, N''-(methylenedi-4,1-phenylene)bis[N'-octyl]urea ⚠ Resp. Sens. 1, H334; ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400 (M=100); ⚠ Aquatic Chronic 1, H410 (M=100)	5-<10%
CAS: 71735-74-5 EINECS: 275-965-6	Ethyl 3-[[bis(1-methylethoxy)phosphinothiyl]thio]propionate ⚠ Aquatic Chronic 2, H411	5-<10%
CAS: 68411-46-1 EINECS: 270-128-1 Reg.nr.: 01-2119491299-23-xxxx	Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene ⚠ Repr. 2, H361f; ⚠ Aquatic Chronic 3, H412	1-<3%
CAS: 84605-29-8 EINECS: 283-392-8	Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts ⚠ Eye Dam. 1, H318; ⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315	1-<3%
CAS: 26544-38-7 EINECS: 247-781-6 Reg.nr.: 01-2119979080-37-xxxx	Dihydro-3-(tetrapropenyl)furan-2,5-dione ⚠ Eye Dam. 1, H318; ⚠ Skin Irrit. 2, H315; ⚠ Skin Sens. 1A, H317; ⚠ Aquatic Chronic 4, H413	<1%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

· **General information:** Immediately remove any clothing soiled by the product.

#### · After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

#### · After skin contact:

Treat affected skin with cotton wool or cellulose. Then wash and rinse thoroughly with water and a mild cleaning agent.

Immediately wash with water and soap and rinse thoroughly.

#### · After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Do not induce vomiting; call for medical help immediately.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

· **Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fire with alcohol resistant foam.

Use fire extinguishing methods suitable to surrounding conditions.

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- **5.2 Special hazards arising from the substance or mixture**  
*Formation of toxic gases is possible during heating or in case of fire.*
- **5.3 Advice for firefighters**
- **Protective equipment:** *Wear self-contained respiratory protective device.*

### **SECTION 6: Accidental release measures**

- **6.1 Personal precautions, protective equipment and emergency procedures**  
*Particular danger of slipping on leaked/spilled product.*
- **6.2 Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.*
- **6.3 Methods and material for containment and cleaning up:**  
*Dispose contaminated material as waste according to section 13.*  
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).*  
*Ensure adequate ventilation.*
- **6.4 Reference to other sections**  
*No dangerous substances are released.*  
*See Section 7 for information on safe handling.*  
*See Section 8 for information on personal protection equipment.*  
*See Section 13 for disposal information.*

### **SECTION 7: Handling and storage**

- **7.1 Precautions for safe handling**  
*Keep away from heat and direct sunlight.*  
*Ensure good ventilation/exhaustion at the workplace.*
- **Information about fire - and explosion protection:** *When heated the product forms flammable fumes.*
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Store away from oxidising agents.*
- **Further information about storage conditions:** *Protect from contamination.*
- **7.3 Specific end use(s)** *No further relevant information available.*

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

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**  
*The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.*
- **Additional information:** *The lists valid during the making were used as basis.*
- **8.2 Exposure controls**
- **8.2.1 Appropriate engineering controls** *No further data; see section 7.*
- **8.2.2 Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**  
*Keep away from foodstuffs, beverages and feed.*  
*Immediately remove all soiled and contaminated clothing*  
*Wash hands before breaks and at the end of work.*
- **Respiratory protection:**  
*Not necessary if room is well-ventilated.*  
*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*

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- **Hand protection**  
Oil resistant gloves



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture,  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Nitrile rubber, NBR

PVC or PE gloves

Neoprene gloves

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye/face protection** Safety glasses

- **8.2.3 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

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

· <b>Physical state</b>	Solid
· <b>Colour:</b>	Yellow
· <b>Odour:</b>	Recognisable
· <b>Melting point/freezing point:</b>	Undetermined.
· <b>Boiling point or initial boiling point and boiling range</b>	Undetermined.
· <b>Flammability</b>	Not determined.
· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	Not determined.
· <b>Upper:</b>	Not determined.
· <b>Flash point:</b>	175 °C (Seta)
· <b>Auto-ignition temperature:</b>	Not determined.
· <b>Decomposition temperature:</b>	Not determined.
· <b>pH</b>	Not applicable.
· <b>Viscosity:</b>	
· <b>Kinematic viscosity</b>	Not applicable.
· <b>Dynamic:</b>	Not applicable.
· <b>Solubility</b>	
· <b>water:</b>	Insoluble.
· <b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
· <b>Vapour pressure:</b>	Not applicable.
· <b>Density and/or relative density</b>	
· <b>Density at 25 °C:</b>	0.87 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.

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- |  |                              |
|--|------------------------------|
| · <b>Vapour density</b>  | Not applicable.              |
| · <b>Particle characteristics</b>  | Not applicable               |
| · <b>9.2 Other information</b>   |                              |
| · <b>Appearance:</b>   |                              |
| · <b>Form:</b>   | Pasty                        |
| · <b>Ignition temperature:</b>   | Product is not selfigniting. |
| · <b>9.2.1 Information with regard to physical hazard classes</b>                  |                              |
| · <b>Explosives</b>  | Not applicable.              |
| · <b>Flammable gases</b>   | Not applicable.              |
| · <b>Aerosols</b>  | Not applicable.              |
| · <b>Oxidising gases</b>   | Not applicable.              |
| · <b>Gases under pressure</b>  | Not applicable.              |
| · <b>Flammable liquids</b>   | Not applicable.              |
| · <b>Flammable solids</b>  | Not applicable.              |
| · <b>Self-reactive substances and mixtures</b>                                     | Not applicable.              |
| · <b>Pyrophoric liquids</b>  | Not applicable.              |
| · <b>Pyrophoric solids</b>   | Not applicable.              |
| · <b>Self-heating substances and mixtures</b>                                      | Not applicable.              |
| · <b>Substances and mixtures, which emit flammable gases in contact with water</b> | Not applicable.              |
| · <b>Oxidising liquids</b>   | Not applicable.              |
| · <b>Oxidising solids</b>  | Not applicable.              |
| · <b>Organic peroxides</b>   | Not applicable.              |
| · <b>Corrosive to metals</b>   | Not applicable.              |
| · <b>Desensitised explosives</b>   | Not applicable.              |
| · <b>9.2.2 Other safety characteristics</b>  | Not applicable.              |

### **SECTION 10: Stability and reactivity**

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**  
Carbon monoxide and carbon dioxide  
Toxic metal oxide smoke

### **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.
- **LD/LC50 values relevant for classification:** Based on available data, the classification criteria are not met.
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**  
The product is not classified as a hazardous substance in terms of acute eye irritation/corrosion based on the OECD405 test results.  
Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation**  
We have raised an objection to ECHA as the urea in the product was wrongly classified in terms of respiratory sensitization.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.

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- **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**

- **11.2.1 Endocrine disrupting properties**

None of the ingredients is listed.

- **11.2.2 Other information** Not applicable.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** Not easily biodegradable
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**  
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**  
The grease product falls under not-classified by the results of Freshwater algae and cyanobacteria growth inhibition test (OECD 201).  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Hand over to hazardous waste disposers.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- |  |                |
|--|----------------|
| <ul style="list-style-type: none"> <li>· <b>14.1 UN number or ID number</b></li> <li>· <b>ADR/ADN, IMDG, IATA</b></li> </ul>                             | Not Restricted |
| <ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR/ADN, IMDG, IATA</b></li> </ul>                            | Not Restricted |
| <ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR/ADN, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul> | Not Restricted |
| <ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· <b>ADR/ADN, IMDG, IATA</b></li> </ul>                                      | Not Restricted |

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· <b>14.5 Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>14.6 Special precautions for user</b>	See sections 6 to 8 of this Safety Data Sheet. Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>UN "Model Regulation":</b>	Not Restricted

## SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

None of the ingredients is listed.

- **REGULATION (EU) 2019/1148**

· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

- **Regulation (EC) No 273/2004 on drug precursors**

None of the ingredients is listed.

- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

None of the ingredients is listed.

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H361f Suspected of damaging fertility.

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.

H413 May cause long lasting harmful effects to aquatic life.

- **Date of previous version:** 22.12.2022
- **Version number of previous version:** 4

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**Abbreviations and acronyms:**

*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*  
*IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)*  
*ICAO: International Civil Aviation Organisation*  
*ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)*  
*ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*  
*IMDG: International Maritime Code for Dangerous Goods*  
*IATA: International Air Transport Association*  
*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*  
*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*  
*Resp. Sens. 1: Respiratory sensitisation – Category 1*  
*Skin Sens. 1: Skin sensitisation – Category 1*  
*Skin Sens. 1A: Skin sensitisation – Category 1A*  
*Repr. 2: Reproductive toxicity – Category 2*  
*Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1*  
*Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1*  
*Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2*  
*Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3*  
*Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4*

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