

# Denax DPG SDS

| 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION  |  |
|---|--|
| Manufacturer<br>Lučební závody Draslovka a.s. Kolín<br>Havlíčkova 605, 280 02 Kolín, Česká republika                      | Emergency Contact<br>Chemtrec: 1-800-424-9300 (USA)<br>(1)330-542-8400 (outside USA) |
| Trade Name(s): Denax DPG Oil Granule, Denax DPG Oiled Powder  | Synonyms: 1,3-Diphenylguanidine, DPG   |
| Relevant identified uses of the substance or mixture and uses advised against: No further relevant information available. | Application of the substance/the preparation: Chemicals for synthesis.               |
| Issued By: Sovereign Chemical Company<br><br>According to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and GHS               | Date of Issue: April 15, 2024  |

## 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture  
 Information in accordance with US 29 CFR 1910.1200 (Hazcom 2012) and Regulation (EC) No 1272/2008

### Hazard statement Codes

- Skin irritation, category 2, H315 Causes skin irritation.
- Serious eye damage, category 1, H318 Causes serious eye damage.
- Specific target organ toxicity – single exposure, category 3, H335 May cause respiratory irritation.
- Reproductive toxicity, category 2, H361f Suspected of damaging fertility.
- Chronic (long term) aquatic hazard, category 2, H411 Toxic to aquatic life with long lasting effects.

### Label elements

### Hazard Pictograms



Signal word: Danger

### Hazard statements

- H301 – Toxic if swallowed.
- H315 – Causes skin irritation.
- H318 – Causes serious eye damage.
- H335 – May cause respiratory irritation.
- H361f – Suspected of damaging fertility.
- H411 – Toxic to aquatic life with long lasting effects.

Precautionary statements

- P202 – Do not handle until all safety precautions have been read and understood.
- P270 – Do not eat, drink, or smoke when using this product.
- P273 – Avoid release into the environment.
- P280 – Wear protective nitrile gloves, protective clothing, and eye protection.
- P261 – Avoid breathing dust.
- P301 + P310 – IF SWALLOWED: Immediately call a doctor/physician.
- P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Other hazards

Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.

The amount and type of oil in DENAX DPG OIL POWDER and DENAX DPG OIL GRANULE has no effect on the classification and the hazards of the product.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance

| Chemical Name         | CAS No   | EC No     | Weight % | Classification  |
|-----------------------|----------|-----------|----------|---|
| 1,3-diphenylguanidine | 102-06-7 | 203-002-1 | ≥96.5%   | Acute Tox. 4, H302<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335<br>Repr. 2, H361f<br>Aquatic Chronic 2, H411 |

The remaining unspecified ingredients are impurities and are not hazardous.

**4. FIRST AID MEASURES**

Description of first aid measures

General: In case of physical discomfort or health troubles or if there is any doubt about poisoning, notify a doctor and provide him with information form this SDS.

If inhaled: stop exposition immediately, move the affected person to fresh air, provide the affected person against cold, ensure medical treatment, especially in case of outlasting coughing, shortness of breath or other symptoms

If on skin: remove contaminated clothing, wash the affected area with large amount of (preferably) lukewarm water, in case of undamaged skin, it is possible to use soap, suds or shampoo, ensure medical treatment, especially when skin irritation continues

If in eyes: immediately start rinsing eyes with running water, open eyelids (use force if necessary); if the victim has contact lenses, remove them immediately, rinse for at least 10 minutes, ensure medical treatment, if possible, ophthalmologist

In case of ingestion: DO NOT INDUCE VOMITING, ensure medical treatment

Most important symptoms and effects, both acute and delayed

Inhalation: Irritates central nervous system. Causes bitter taste in mouth, makes swallowing painful and reduces acidity of gastric juices.

Skin contact: Skin exposure may result in symptoms of irritated skin, such as itching or redness.

Eye contact: The product causes eye burning sensation and reddening of eyelids.

Ingestion: Irritates central nervous system. Causes bitter taste in mouth, makes swallowing painful and reduces acidity of gastric juices.

Indication of any immediate medical attention and special treatment needed  
Inform a doctor about first aid measures.

## 5. FIRE FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:

Fragmented stream of water, extinguishing foam.

Unsuitable extinguishing media:

Powder, CO<sub>2</sub>. Adjust to surrounding materials.

Adapt to surrounding materials.

Special hazards arising from the substance or mixture

Dangerous products of decomposition - carbon monoxide, oxides of nitrogen

Advice for firefighters

Use self-contained breathing apparatus (EN 137)

From the standpoint of fire safety, whirled DPG dust ignites at the temperature of 645 °C. The lower explosion limit is at 39 g.m<sup>-3</sup> at the initiation energy of 9 kJ.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

Use self-contained breathing apparatus (EN 137). Mark out the contaminated area and prevent to enter unauthorized persons.

Observe the instructions in Sections 7 and 8.

Environmental precautions

Prevent accidental release into the drains, surface, and groundwater. If water is contaminated inform the competent local authorities.

Methods and material for containment and cleaning up

- a) Small leak  
Remove mechanically (collect into a container). Hand over to authorized person for disposal.  
Decontamination: water
- b) Big leak  
Remove mechanically. Hand over to authorized person for disposal.

## 7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with eyes and skin. Use personal protective equipment in accordance with Section 8. Observe valid health and safety regulations.

Protection from fire or explosion: Prevent increase in temperature. For other precautions see Exposure Scenario.

Conditions for safe storage, including any incompatibilities

Safe storage advice: Store in original packaging.

Other special requirements, including the type of packaging material: Paper bag, a pallet protected with a polyethylene foil or FIBC of plastic woven material. Make sure the label is visible. When stored on shelves, identification of the substance on the shelf is necessary.

Requirements for joint storage: Incompatible products – oxidants, strong acids.

Safe storage requirements: Store in a dry, properly ventilated, closed area while contained in original packaging placed on wooden or plastic pallets. Keep away from foodstuffs, water sources, and sewer pipes. Keep out of reach of children.

Specific end use(s)

See Exposure Scenarios

## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

Control parameters

Substances with Community Exposure

Safe storage requirements: Store in a dry, properly ventilated, closed area while contained in original packaging placed on wooden or plastic pallets. Keep away from foodstuffs, oxidants, strong acids.

When stored on shelves, identification of the substance is necessary. Make sure the label is visible.

Requirements for joint storage: Incompatible products - oxidants, strong acids.

See Exposure Scenario

The national occupational exposure limit values that correspond to Union occupational exposure limit values in accordance with Directive (EU) 2019/1831.

**Limits:**

**DNEL:**

**1,3-diphenylguanidine (CAS: 102-06-7)**

| Exposed group and route of exposure | Duration of exposure | Type of effect | Unit              | Value |
|-------------------------------------|----------------------|----------------|-------------------|-------|
| <b>Workers</b>                      |                      |                |                   |       |
| Inhalation                          | Long-term (chronic)  | systemic       | mg/m <sup>3</sup> | 1.2   |
| Dermal                              | Long-term (chronic)  | systemic       | mg/kg bw/d        | 1.7   |
| <b>Consumers</b>                    |                      |                |                   |       |
| Inhalation                          | Long-term (chronic)  | systemic       | mg/m <sup>3</sup> | 0.3   |
| Dermal                              | Long-term (chronic)  | systemic       | mg/kg bw/d        | 0.85  |
| Oral                                | Long-term (chronic)  | systemic       | mg/kg bw/d        | 0.085 |

**PNEC:**

**1,3-diphenylguanidine (CAS: 102-06-7)**

| Component of the environment               | PNEC                       | Unit                          | Value             |
|--|----------------------------|-------------------------------|-------------------|
| <b>Water environment</b>                   | Freshwater                 | PNEC <sub>water, fresh.</sub> | mg/L              |
|  | Freshwater sediment        | PNEC <sub>sed., fresh.</sub>  | mg/kg sediment dw |
|  | Seawater                   | PNEC <sub>water, mar.</sub>   | mg/L              |
|  | Marine sediment            | PNEC <sub>sed., mar.</sub>    | mg/kg sediment dw |
| <b>Microbiological activity</b>            | Wastewater treatment plant | PNEC <sub>sew. treat.</sub>   | mg/L              |
| <b>Terrestrial environment / organisms</b> | Soil                       | PNEC <sub>soil</sub>          | mg/kg soil dw     |

**Exposure controls**

Technical measures and the use of appropriate working procedures take precedence over the use of PPE.

Protective equipment must be selected depending on the concentration and amount of risk factors in the relevant building / activity. The PPE listed here provides protection in normal operation. If there is a risk of HCN, use PPE listed in sections 5.3 and 6.1. In normal operation and in crisis situations, use the so-called "buddy system" - a safety system for pairs. Provide staff training on the use of PPE to protect the respiratory tract, hands and eyes and face.

Respiratory protection: Dustproof respirator with FFP1 dust filter or combined filter e.g., A2B2E2K2P3D (EN136, 14 387 + A1) should be used if concentration in working environment exceeds recommended values or if work takes place in an environment that is difficult to ventilate properly.

Eye protection: Goggles or a shield. (EN 166)

Hand protection: Gloves (eg KCL 732); (tested according to EN ISO 374-1); thickness: min 0.4 mm; material: nitrile.

penetration time:> 240 min. Basic training in combination with special training (eg the procedure for removing and disposing of gloves) for operations where dermal protection is required.

Skin protection: Protective suit (EN ISO 13688), protective shoes (EN ISO 20346).

Environmental exposure control: Avoid release of the product / substance to the environment by all available means. Section 6

Individual protection measures - for other users  
Protective equipment must be selected depending on the concentration and amount of risk factors in the relevant facility / activity.

See Exposure Scenarios.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

|   |   |
|---|---|
| Appearance<br>Form: Powder or fine granules.<br>Color: White to greyish.        | Change in Condition<br>Melting Point/Melting Range: 300 °F / 149 °C<br>Boiling Point/Boiling Range: 250 °C  |
| Odor: None.   | Octanol/Water Partition Coefficient: log Kow= 2.42 at pH 11 and 21.1 °C                                     |
| Odor threshold: Not determined.   | pH Value: Not applicable.   |
| Vapor pressure: 3,7e-10 Pa at 25 °C   | Flash point: Not applicable.  |
| Density at 20 °C: 1.18 g/cm <sup>3</sup> .                                      | Flammability (solid, gaseous): Product is not flammable.  |
| Relative density: 0.348 (water = 1)   | Ignition temperature: Not determined.   |
| Vapor density: Not applicable.  | Decomposition temperature: Not determined.  |
| Evaporation rate: Not applicable.   | Self-igniting: Not determined.  |
| Solubility in / Miscibility with water: 325 mg/l at 20 °C (solubility in water) | Danger of explosion: Whirled dust may create explosive mixture with air – not sufficient for classification |
| Viscosity<br>Dynamic: Not applicable.<br>Kinematic: Not applicable.             | Explosion limits<br>Lower: 39 g/m <sup>3</sup> (whirled dust)<br>Upper: Not determined.                     |
| Solvent content: Not applicable.  | Solids content: Not determined.   |

Other information: No further relevant information available.

## 10. STABILITY AND REACTIVITY

Reactivity: Data not available

Chemical stability: The product is stable under the conditions defined for handling, application, and transport. Store at room temperature in original, sealed packaging.

Possibility of hazardous reactions: Data not available

Conditions to avoid: Store protected from moisture and heat.

Incompatible materials: Oxidants, strong acids.

Hazardous decomposition products: Nitrogen oxides, carbon monoxide

**11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects

a) Acute toxicity

1,3-Diphenylguanidine has an acute oral LD50 of 107-111 mg/kg bw (rat). By dermal route, the LD0 is >= 2,000 mg/kg bw (rabbit).

b) Skin corrosion/irritation

Does not damage the skin. Causes skin irritation (rabbit).

c) Serious eye damage/irritation

Severely irritating to the eyes (rabbit).

d) Respiratory or skin sensitization

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

e) Germ cell mutagenicity

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

f) Carcinogenicity

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

g) Reproductive toxicity

Based on the study (OECD 443, CRL 2021), the classification of 1,3-diphenylguanidine is: Reproductive toxicity, category 2, H361f (Suspected of damaging fertility.).

h) Specific target organ toxicity (STOT)– single exposure

The phrase H335 (May cause respiratory irritation.) was added to the classification due to unification with the harmonized classification according to Regulation (EC) No. 1272/2008.

i) Specific target organ toxicity (STOT)– repeated exposure

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

j) Aspiration hazard

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

**12. ECOLOGICAL INFORMATION**

Toxicity

Fish LC50-96h = 4.2 mg/l (Pimephales promelas)

Algae 72 h EC50 = 7.5 mg/l; 96 h EC50 = 1.7 mg/l (Selenastrum capricornutum)

Daphnia 24 h EC50 = 73.6 mg/l; 48 h EC50 = 17mg/l (Daphnia magna)

Bacteria In an oxygen consumption test following OECD guideline 209, with unadapted activated sludge from a laboratory plant as inoculums, an EC50 -3 hours of 147 mg/l was estimated (79 -208 mg/l).

Persistence and degradability: DPG (1,3-diphenylguanidine) is easily biodegradable (85% after 28 days).

Bioaccumulative potential: DPG is characterized by a low potential of bioaccumulation in aquatic organisms based on  $\log K_{ow} = 2.42$  and  $BCF < 20$ .

Mobility in soil: Absorption or desorption: Soil:  $\log K_{oc}$ : 2.8

Results of PBT and vPvB assessment: According to CSR the substance does not fulfill criteria for either PBT or vPvB.

Endocrine Disrupting Properties: This product does not contain endocrine disruptors in a concentration of 0.1% by weight or higher.

Other adverse effects Not known

### 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

a) Possible hazards in disposing of the substance and contaminated packaging. Dispose of waste and properly emptied containers in accordance with applicable waste legislation and other legal regulations issued to protect the environment. Then hand over to the authorized person to dispose of hazardous waste. The recommended use of the material, then energy recovery. Additional information may be provided by the manufacturer.

b) Physical/chemical properties that may affect waste treatment. See above

c) Avoiding waste disposal through sewerage. Avoid release into sewerage.

c) Special precautions for any recommended waste treatment. See above

### 14. TRANSPORTATION INFORMATION

UN-Number UN2811

UN proper shipping name:

ADR, RID, IMDG, IATA, DOT TOXIC SOLID, ORGANIC, N.O.S (1,3-diphenylguanidine)

Transport hazard class(es)

DOT, ADR, RID, IMDG, IATA 6.1

Classification

ADR, RID 7.2

Packing group

DOT, ADR, RID, IMDG, IATA III









Hazard Identification



ADR

60 (Kemler)

Labels

| <i>ADR</i>   | <i>RID</i>   | <i>IMDG:</i>   | <i>ICAO/IATA:</i>  |
|--|--|--|--|
| <br> | <br> | <br> | <br> |
| <b>Note</b>  |  |  |  |
| <i>ADR</i>   | <i>RID</i>   | <i>IMDG:</i><br>EmS: F-A, S-F  | <i>ICAO/IATA:</i><br>PAO: 670<br>CAO: 677  |

Environmental hazards

ADR, RID, IATA  
IMDG

Product contains environmentally hazardous substances  
Yes, marine pollutant; Chronic (long term) aquatic hazard, category 2, H411

Special precautions for user: Not necessary

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

**15. REGULATORY INFORMATION**

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

|  |                          |
|--|--------------------------|
| <b>United States (USA)</b>                                       |                          |
| SARA Section 355 (extremely hazardous substances)                | Substance is not listed. |
| SARA Section 313 (Specific toxic chemical listings)              | Substance is not listed. |
| TSCA (Toxic Substances Control Act)                              | Substance is listed.     |
| <b>Proposition 65 (California)</b>                               |                          |
| Chemicals known to cause cancer                                  | Substance is not listed. |
| Chemicals known to cause reproductive toxicity for females       | Substance is not listed. |
| Chemicals known to cause reproductive toxicity for males         | Substance is not listed. |
| Chemicals known to cause developmental toxicity                  | Substance is not listed. |
| <b>Carcinogenic Categories</b>                                   |                          |
| EPA (Environmental Protection Agency)                            | Substance is not listed. |
| IARC (International Agency for Research on Cancer)               | Substance is not listed. |
| TLV (Threshold Limit Value established by ACGIH)                 | Substance is not listed. |
| NIOSH-Ca (National Institute for Occupational Safety and Health) | Substance is not listed. |
| OSHA-Ca (Occupational Safety & Health Administration)            | Substance is not listed. |
| <b>Canada</b>  |                          |
| Canadian Domestic Substances List (DSL)                          | Substance is listed.     |
| Canadian Ingredient Disclosure list (limit 0.1%)                 | Substance is not listed. |
| Canadian Ingredient Disclosure list (limit 1%)                   | Substance is not listed. |

Chemical safety assessment: See: Chemical Safety Report

**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.