

Safety Data Sheet

according to Regulation (EC) No 1907/2006

DEGESCH-PLATE / DEGESCH-STRIP

Print date: 29.10.2014

Product code: 45

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

1.1. Product identifier

DEGESCH-PLATE / DEGESCH-STRIP

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

Use of the substance/mixture

Plant protection products

1.3. Details of the supplier of the safety data sheet

Company name:	Detia Freyberg GmbH		
Street:	Dr.-Werner-Freyberg-Straße 11		
Place:	A-69514 Laudenbach		
Telephone:	+49-6201-708-0	Telefax:	+49-6201-708-427
e-mail:	sicherheitsdatenblaetter@Detia-Freyberg.de		

1.4. Emergency telephone number:

Gifteinformationszentrum (GIZ) Universitätsklinikum Mainz Tel.: +49-6131-19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Indications of danger: F - Highly flammable, T+ - Very toxic, Xn - Harmful, N - Dangerous for the environment

R phrases:

Contact with water liberates toxic, extremely flammable gas.

Harmful in contact with skin.

Very toxic by inhalation, in contact with skin and if swallowed.

Contact with acids liberates very toxic gas.

Very toxic to aquatic organisms.

developed with humidity, gaseous phosphine

GHS classification

Hazard categories:

Substance or mixture which in contact with water emits flammable gas: Water-react. 1

Acute toxicity: Acute Tox. 1

Acute toxicity: Acute Tox. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Hazardous to the aquatic environment: Aquatic Acute 1

Hazard Statements:

In contact with water releases flammable gases which may ignite spontaneously.

Fatal if swallowed.

Fatal if inhaled.

Toxic in contact with skin.

Very toxic to aquatic life.

2.2. Label elements

Signal word:

Danger

Pictograms:

GHS02-GHS06-GHS09



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Hazard statements

H260	In contact with water releases flammable gases which may ignite spontaneously.
H300	Fatal if swallowed.
H330	Fatal if inhaled.
H311	Toxic in contact with skin.
H400	Very toxic to aquatic life.

Precautionary statements

P501	Dispose of this material and its container to hazardous or special waste collection point.
P405	Store locked up.
P402+P404	Store in a dry place. Store in a closed container.
P370+P378	In case of fire: Use Carbon dioxide (CO ₂); Sand; Extinguishing powder. to extinguish.
P335	Brush off loose particles from skin.
P321	Specific treatment (see first Aid on this label).
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P280	Wear suitable protective clothing, gloves and eye/face protection.
P273	Avoid release to the environment.
P234	Keep only in original container.
P232	Protect from moisture.
P223	Do not allow contact with water.

Special labelling of certain mixtures

EUH029	Contact with water liberates toxic gas.
EUH032	Contact with acids liberates very toxic gas.

2.3. Other hazards

Substances or mixtures which, in contact with water emit flammable gases: Phosphine developed with humidity, gaseous phosphine

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
235-023-7	magnesium phosphide; trimagnesium diphosphide	56 %
12057-74-8	F - Highly flammable, T+ - Very toxic, N - Dangerous for the environment R15/29-28-50	
	Water-react. 1, Acute Tox. 2, Aquatic Acute 1; H260 H300 H400	

Full text of R and H phrases: see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Move victim out of danger zone. Call a physician immediately. Remove contaminated clothing immediately and dispose off safely.

After inhalation

If experiencing respiratory symptoms: Call a doctor. Symptoms: Vomiting, Headache, Respiratory complaints, Dizziness. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Provide fresh air. In case of breathing difficulties administer oxygen. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator. Call a physician immediately. If unconscious, call emergency physician. Special aids required for First Aid measures: have methyl prednisolon

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(application by physician) and products for acute treatment following exposition of smoke gas (eg a beclometasone (Ventolair®) spray) available.

After contact with skin

remove any rests by brushing; only then use water for cleansing Change contaminated clothing. Medical treatment necessary.

After contact with eyes

remove rests of preparation with fluff-free cloth; rinse with plenty of water and apply eye drops only after no more powdery residues are visible.

After ingestion

Never give anything by mouth to an unconscious person or a person with cramps. Call a physician immediately.

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

Headache, dizziness, anxiety, difficulty breathing and nausea

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

If unconscious, call emergency physician. Special aids required for First Aid measures: have methyl prednisolon (application by physician) and products for acute treatment following exposition of smoke gas (eg a beclometasone (Ventolair®) spray) available. If unconscious place in recovery position and seek medical advice. First-aid measures: Methylprednisolon, Ventolair®

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

D powder. Dry sand. Cement.

Unsuitable extinguishing media

Water. Foam.

5.2. Special hazards arising from the substance or mixture

Combustible. Vapours may form explosive mixtures with air. Risk of selfignition.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protective suit.

Additional information

Do not allow run-off from fire-fighting to enter drains or water courses. Never add water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Provide adequate ventilation. Avoid generation of dust. Do not breathe dust. Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

6.2. Environmental precautions

Explosion hazard. Do not empty into drains; dispose of this material and its container in a safe way. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Cover drains.

6.3. Methods and material for containment and cleaning up

Take up carefully when dry. Treat the recovered material as prescribed in the section on waste disposal. Treat the recovered material as prescribed in the section on waste disposal. Dispose contaminated material as waste according to item 13. Ensure adequate ventilation. Do not flush with water or aqueous cleaning agents. Use suitable containers for disposal. Avoid dust formation. This material and its container must be disposed of as hazardous waste.

6.4. Reference to other sections

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SECTION 7: Handling and storage

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7.1. Precautions for safe handling**Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust. Avoid contact with water. Never add water to this product. When using do not eat, drink or smoke. Wear suitable protective clothing, gloves and eye/face protection. Take off immediately all contaminated clothing and wash it before reuse. Avoid generation of dust.

Advice on protection against fire and explosion

When using do not eat, drink or smoke. Keep away from: Water. Acid

Further information on handling

In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from: Water, Acid

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

Keep container dry. Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Keep container in a well-ventilated place. Keep container dry. Store in a place accessible by authorized persons only. Keep container in a well-ventilated place. Keep only in the original container in a cool, well-ventilated place away from acids. Keep away from: Water.

Advice on storage compatibility

Do not store together with: Acid. Water

Further information on storage conditions

Keep locked up and out of the reach of children.

7.3. Specific end use(s)

Plant protection products, biocides

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
12057-74-8	magnesium phosphide; trimagnesium diphosphide	0,1	0,14		TWA (8 h) STEL (15 min)	

Additional advice on limit values

Odour threshold for hydrogen phosphide: 0.02 up to 3 ppm, depending on the sensitivity 1b) Apply to TRGS 402

8.2. Exposure controls**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust.

Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

Eye/face protection

wear safety goggles according to EN 166:2001.

Hand protection

suitable gloves for example Nitril or Latex gloves (AQL: 1.5) tested according to EN- 374-2 and EN374-3

Skin protection

suitable protective clothing according to BGR 189 (ATL: "Rules for the use of protective clothing")

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Respiratory protection

respiratory equipment according to DIN EN 141, Type B, code colour grey

Environmental exposure controls

See Section 6 and 7

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

Physical state: solid. developed with humidity, gaseous phosphine
Colour: grey.Paper:orange
Odour: garlic-like

Test method

pH-Value: -

Changes in the physical state

Melting point: > 500(Phosphine) °C
Initial boiling point and boiling range: Test not required.
Sublimation point: Test not required.
Softening point: No data available
Pour point: No data available
Flash point: No data available

Flammability

Solid: No data available
Gas: No data available

Explosive properties

This information is not available.

Lower explosion limits: 1,8
Upper explosion limits: No data available
Ignition temperature: No data available

Auto-ignition temperature

Solid: No data available
Gas: No data available

Vapour pressure: 34,6 hPa
(at 20 °C)Density: 1,47 (Phosphine) g/cm³

Water solubility: Test not required.

Viscosity / dynamic: not applicable

Viscosity / kinematic: not applicable

Flow time: not applicable

Vapour density: not applicable

Evaporation rate: not applicable

Solvent separation test: No data available

9.2. Other information**SECTION 10: Stability and reactivity****10.1. Reactivity**

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In contact with water, a toxic and extremely flammable gas is developed. In contact with acids, a very toxic gas is developed.

10.2. Chemical stability

Handle under inert gas. Protect from moisture.

10.3. Possibility of hazardous reactions

In contact with atmospheric moisture, highly toxic phosphine is developed. Uncontrolled development of hydrogen phosphide can cause fires.. Contact with acids liberates very toxic gas. Contact with water liberates toxic gas. Do not allow uncontrolled discharge of product into the environment.

10.4. Conditions to avoid

see section 7

10.5. Incompatible materials

Protect against: moisture. Never add water to this product. Keep away from: Material, rich in oxygen, oxidizing. Keep away from: acid. Reacts violently with water, liberating extremely flammable gases. Contact with acids liberates toxic gas.

10.6. Hazardous decomposition products

Phosphorus hydride, phosphorus pentoxide, phosphoric acid, see also section 5.3

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute toxicity**

Very toxic. Acute toxicity, oral. Acute toxicity, inhalant. Acute toxicity, dermal.

CAS No	Chemical name	Exposure routes	Method	Dose	Species	Source
12057-74-8	magnesium phosphide; trimagnesium diphosphide					
		oral	LD50	11,2 mg/kg		
		dermal	LD50	900 mg/kg		
		inhalative gas	LC50	0,015 ppm		

Irritation and corrosivity

Preparation not tested.

Sensitising effects

no danger of sensitization.

Severe effects after repeated or prolonged exposure

No information available.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on existing data the substance does not fulfill the criteria of CMR-substances Cat. 1 and 2 according 67/548/EEC.

Specific effects in experiment on an animal

Very toxic by inhalation, in contact with skin and if swallowed.

Additional information on tests

The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 12: Ecological information**12.1. Toxicity**

Very toxic to aquatic life.

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CAS No	Chemical name	Method	Dose	[h] [d]	Species	Source
12057-74-8	magnesium phosphide; trimagnesium diphosphide					
	Acute fish toxicity	LC50 mg/l	9,7 x 10 ⁻³	96 h		
	Acute crustacea toxicity	EC50	0,2 mg/l	48 h		

12.2. Persistence and degradability

Decomposes in contact with water.

12.3. Bioaccumulative potential

 log Pow = 0.9 of PH₃, No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
12057-74-8	magnesium phosphide; trimagnesium diphosphide	0,9

12.4. Mobility in soil

The product decomposes spontaneously in water. Ecological information therefore only describes the effects of the decomposition products.

12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

none

Further information

Do not allow to enter into surface water or drains. The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

SECTION 13: Disposal considerations
13.1. Waste treatment methods
Advice on disposal

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products

061301 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from inorganic chemical processes not otherwise specified; inorganic plant protection products, wood-preserving agents and other biocides.
Classified as hazardous waste.

Waste disposal number of used product

061301 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from inorganic chemical processes not otherwise specified; inorganic plant protection products, wood-preserving agents and other biocides.
Classified as hazardous waste.

Waste disposal number of contaminated packaging

060316 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from the MFSU of salts and their solutions and metallic oxides; metallic oxides other than those mentioned in 06 03 15

Contaminated packaging

Avoid contact with water. Dispose of waste according to applicable legislation.

SECTION 14: Transport information
Land transport (ADR/RID)
14.1. UN number:

UN2011

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14.2. UN proper shipping name: MAGNESIUM PHOSPHIDE**14.3. Transport hazard class(es):** 4.3+6.1**14.4. Packing group:** I

Hazard label: 4.3+6.1



Classification code: WT2

Limited quantity: 0

Transport category: 1

Tunnel restriction code: E

Other applicable information (land transport)

Limited quantity: E0

Mailing: not allowed. Warning board: starting 20 kg net weight

Inland waterways transport (ADN)**14.2. UN proper shipping name:** MAGNESIUM PHOSPHIDE**Marine transport (IMDG)****14.1. UN number:** UN2011**14.2. UN proper shipping name:** MAGNESIUM PHOSPHIDE**14.3. Transport hazard class(es):** 4.3+6.1**14.4. Packing group:** I

Hazard label: 4.3+6.1



Special Provisions: -

Limited quantity: 0

EmS: F-G, S-N

Other applicable information (marine transport)

Limited quantity: E0

Air transport (ICAO)**14.1. UN number:** UN2011**14.2. UN proper shipping name:** MAGNESIUM PHOSPHIDE**14.3. Transport hazard class(es):** 4.3+6.1**14.4. Packing group:** I

Hazard label: 4.3+6.1



Limited quantity Passenger: Forbidden

IATA-packing instructions - Passenger: Forbidden

IATA-max. quantity - Passenger: Forbidden

IATA-packing instructions - Cargo: 487

IATA-max. quantity - Cargo: 15 kg

Other applicable information (air transport)

Limited quantity: E0

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: Forbidden
Cargo Aircraft only

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes

**14.6. Special precautions for user**

Mailing: not allowed. Warning board: starting 20 kg net weight

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

-

Other applicable information

Mailing: not allowed. Warning board: starting 20 kg net weight

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

Water contaminating class (D): 3 - highly water contaminating

SECTION 16: Other information**Full text of R phrases referred to under Sections 2 and 3**

- | | |
|----------|--|
| 15/29 | Contact with water liberates toxic, extremely flammable gas. |
| 21 | Harmful in contact with skin. |
| 26/27/28 | Very toxic by inhalation, in contact with skin and if swallowed. |
| 28 | Very toxic if swallowed. |
| 32 | Contact with acids liberates very toxic gas. |
| 50 | Very toxic to aquatic organisms. |

Full text of H statements referred to under Sections 2 and 3

- | | |
|------|--|
| H260 | In contact with water releases flammable gases which may ignite spontaneously. |
| H300 | Fatal if swallowed. |
| H311 | Toxic in contact with skin. |
| H330 | Fatal if inhaled. |
| H400 | Very toxic to aquatic life. |

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