

Safety Data Sheet

according to Regulation (EC) No 1907/2006

DETIA-GAS-EX B

Print date: 29.10.2014

Product code: 53

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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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:	D-69514 Laudenbach	
Telephone:	+49-6201-708-0	Telefax: +49-6201-708-427
e-mail:	sicherheitsdatenblaetter@Detia-Freyberg.de	

1.4. Emergency telephone number:

Giftinformationszentrum (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, N - Dangerous for the environment

R phrases:

Contact with water liberates toxic, extremely flammable gas.

Harmful in contact with skin.

Very toxic by inhalation and if swallowed.

Contact with acids liberates very toxic gas.

Very toxic to aquatic organisms.

GHS classification

Hazard categories:

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

Acute toxicity: Acute Tox. 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

**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.

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H400 Very toxic to aquatic life.

Precautionary statements

P312 Call a POISON CENTER/doctor if you feel unwell.
 P102 Keep out of reach of children.
 P321 Specific treatment (see first Aid on this label).
 P501 Dispose of this material and its container to hazardous or special waste collection point.
 P402+P404 Store in a dry place. Store in a closed container.
 P405 Store locked up.
 P370+P378 In case of fire: Use Sand;Extinguishing powder; Carbon dioxide (CO₂) to extinguish.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
 P335 Brush off loose particles from skin.
 P280 Wear protective gloves/protective clothing/eye protection/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.

Additional advice on labelling

Contact with water liberates toxic, extremely flammable gas. (Phosphine)

2.3. Other hazards

Fatal if swallowed or if inhaled.

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		
244-088-0	aluminium phosphide	57 %
20859-73-8	F - Highly flammable, T+ - Very toxic, N - Dangerous for the environment R15-28-29-32-50	
	Water-react. 1, Acute Tox. 2, Aquatic Acute 1; H260 H300 H400	
232-260-8	phosphine	0 %
7803-51-2	F+ - Extremely flammable, T+ - Very toxic, C - Corrosive, N - Dangerous for the environment R12-17-26-34-50	
015-181-00-1	Flam. Gas 1, Acute Tox. 2, Skin Corr. 1B, Aquatic Acute 1; H220 H330 H314 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

in case of headache, dizziness, feeling of constriction, difficult breathing and nausea immediately leave the danger zone immediately and seek fresh air; consult a physician; inhale products for acute

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treatment following exposition of smoke gas (eg a beclometasone (Ventolair®) spray). 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.

After contact with skin

remove any rests by brushing; only then use water for cleansing IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.

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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Dry sand, Extinguishing powder, Carbon dioxide (CO₂).

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. Never use water.

Additional information

Never use water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Leave danger zone immediately, ensure adequate ventilation. Warn everybody in the danger zone. Put on respiratory equipment. Wear protective equipment. Keep away unprotected persons. Avoid dust formation. Avoid contact with the spilled product or contaminated surfaces. Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Remove all sources of ignition. Provide adequate ventilation. To follow: Emergency procedures

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Explosion hazard. Avoid contamination of waters and soil with the product and large amounts of the contaminated wash water. Cover sewerage system. Inform competent authority if water or canalization contaminates with the product.

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. 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.

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6.4. Reference to other sections

8,

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Observe the Ordinance on Hazardous Substances (GefStoffV) and TRGS 500. These include general hygiene measures such as - Do not smoke, eat and eat in the working areas. - Wear protective gloves / protective clothing / eye protection. - Take contaminated clothing and protective equipment off before entering areas in which is eaten. - Avoid dust formation. 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.

Advice on protection against fire and explosion

Hold respiratory equipment ready. Keep away from water and acid. Keep away from sources of ignition. - No smoking.

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. Observe TRGS 514 (Storage of very toxic and toxic substances). Store in tightly closed containers in a cool, dry place. Protect from moisture and water and acid. Keep locked up and out of the reach of children. Requirements for storage rooms and containers Special storage conditions: Avoid contact with water, humidity, acids VCI storage class: 4.3

Advice on storage compatibility

Do not store together with: Acid.

7.3. Specific end use(s)

TRGS 512

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

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
7803-51-2	Phosphine	0.1	0.14		TWA (8 h)	WEL
		0.2	0.28		STEL (15 min)	WEL

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.

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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")

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: developed with humidity, gaseous phosphine
Colour: grey
Odour: garlic-like

Test method

pH-Value: Test not required.

Changes in the physical state

Melting point: > 500 °C

Initial boiling point and boiling range: Test not required.

Sublimation point: Test not required.

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

Vapour pressure: 34,6 hPa

Density: 2,0147 g/cm³**Solubility in other solvents**

No data available

Viscosity / dynamic: not applicable

Viscosity / kinematic: not applicable

Flow time: not applicable

Vapour density: not applicable

Evaporation rate: not applicable

9.2. Other information

No data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

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

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10.2. Chemical stability

The product is stable under inert gas.

10.3. Possibility of hazardous reactions

In contact with atmospheric moisture, highly toxic phosphine is developed. Uncontrolled development of hydrogen phosphide can cause fires.

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

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, dermal.

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
20859-73-8	aluminium phosphide				
	oral	LD50	8,7 mg/kg		
	dermal	LD50	900 mg/kg		
	inhalative (4 h) gas	LC50	0,015 ppm		
7803-51-2	phosphine				
	inhalative vapour	ATE	0,5 mg/l		
	inhalative aerosol	ATE	0,05 mg/l		

Irritation and corrosivity

Irritating to eyes.

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.

CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	[h] [d]	Species	Source
20859-73-8	aluminium phosphide					
	Acute fish toxicity	LC50	0,0097 mg/l	96 h		

12.2. Persistence and degradability

Decomposes in contact with water.

12.3. Bioaccumulative potential

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

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Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
20859-73-8	aluminium phosphide	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

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

WGK:3

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 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: UN1397
14.2. UN proper shipping name: ALUMINIUM 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
Special Provisions: 507
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

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Inland waterways transport (ADN)

14.4. Packing group:

I

Other applicable information (inland waterways transport)

Limited quantity: E0

Marine transport (IMDG)

14.1. UN number:

UN1397

14.2. UN proper shipping name:

ALUMINIUM 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:

UN1397

14.2. UN proper shipping name:

ALUMINIUM 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

: Forbidden

Cargo Aircraft only

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes

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

EU regulatory information

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1999/13/EC (VOC): 2037/2000, 689/2008,

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**

12	Extremely flammable.
15	Contact with water liberates extremely flammable gases.
15/29	Contact with water liberates toxic, extremely flammable gas.
17	Spontaneously flammable in air.
21	Harmful in contact with skin.
26	Very toxic by inhalation.
26/28	Very toxic by inhalation and if swallowed.
28	Very toxic if swallowed.
29	Contact with water liberates toxic gas.
32	Contact with acids liberates very toxic gas.
34	Causes burns.
50	Very toxic to aquatic organisms.

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

H220	Extremely flammable gas.
H260	In contact with water releases flammable gases which may ignite spontaneously.
H300	Fatal if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
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.)