

# Degesch Plates

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Date of issue: 28/08/2015  
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# Rentokil

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

#### 1.1. Product identifier

Trade name : Degesch Plates  
Brand : RENTOKIL  
Type of product : Biocide  
Registration No  
Product form : Mixture

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture : Plates contain magnesium phosphide sealed in an aluminium foil sachet. The phosphine gas, which is produced when the tablet comes into contact with moisture has a garlic or carbide odour (although odour is not a reliable indicator of presence). Phosphine is a fumigant for professional use against insects which infest stored commodities processed food and animal feed.

Main use category : Professional use

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

Rentokil Initial Supplies  
Liverpool  
L33 7SR  
UK

Product advice line: +44 (0)151 548 5050  
Email: sds@rentokil.com

##### National Contact

For UK:

Rentokil Initial Supplies  
Liverpool  
L33 7SR  
UK

For Ireland:

Rentokil Initial,  
Hazel House,  
Millennium Park,  
Naas, Co Kildare,  
Ireland

Tel: +353 (0)45 850 799

#### 1.4. Emergency telephone number

Emergency number : +44 (0)1342 833022

Country	Organisation/Company	Address	Emergency number
IRELAND (REPUBLIC OF)	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road Dublin 9	+353 1 809 2166 (public, 8am - 10pm, 7/7)
UNITED KINGDOM	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road Birmingham B18 7QH	0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Water-react. 1 H260  
Acute Tox. 2 (Oral) H300  
Acute Tox. 3 (Dermal) H311  
Acute Tox. 1 (Inhalation:dust,mist) H330  
Aquatic Acute 1 H400

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Full text of H-statements: see section 16

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R15

T+; R26/28

Xn; R21

N; R50

Full text of R-phrases: see section 16

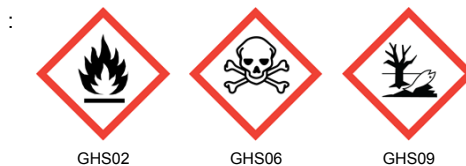
### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazardous ingredients

: Magnesium phosphide; trimagnesium diphosphide

Hazard statements (CLP)

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

Precautionary statements (CLP)

: P223 - Keep away from any possible contact with water, because of violent reaction and possible flash fire  
P232 - Protect from moisture  
P234 - Keep only in original container  
P273 - Avoid release to the environment  
P280 - Wear eye protection, face protection, protective clothing, protective gloves  
P301+P310 - IF SWALLOWED: immediately call a POISON CENTER or doctor/physician  
P321 - Specific treatment (see ... on this label)  
P335 - Brush off loose particles from skin  
P370+P378 - In case of fire: Use dry extinguishing powder, carbon dioxide (CO<sub>2</sub>) to extinguish  
P402+P404 - Store in a dry place. Store in a closed container  
P405 - Store locked up  
P501 - Dispose of contents/container to National Regulations

EUH-statements

: EUH029 - Contact with water liberates toxic gas  
EUH032 - Contact with acids liberates very toxic gas

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
Magnesium phosphide; trimagnesium diphosphide	(CAS No) 12057-74-8 (EC no) 235-023-7 (EC index no) 015-005-00-3	56	F; R15 R29 T+; R26/28 N; R50 R32 Xn; R21
Phosphine / Hydrogen phosphide (reaction product on contact with moisture)	(CAS No) 7803-51-2 (EC no) 232-260-8 (EC index no) 015-181-00-1	25 - 50	F+; R12 F; R17 T+; R26 C; R34 N; R50

Name	Product identifier	Specific concentration limits
Magnesium phosphide; trimagnesium diphosphide	(CAS No) 12057-74-8 (EC no) 235-023-7 (EC index no) 015-005-00-3	(C >= 0.25) N; R50

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Magnesium phosphide; trimagnesium diphosphide	(CAS No) 12057-74-8 (EC no) 235-023-7 (EC index no) 015-005-00-3	56	Water-react. 1, H260 Acute Tox. 2 (Oral), H300 Acute Tox. 3 (Dermal), H311 Acute Tox. 1 (Inhalation), H330 Aquatic Acute 1, H400 (M=100)
Phosphine / Hydrogen phosphide (reaction product on contact with moisture)	(CAS No) 7803-51-2 (EC no) 232-260-8 (EC index no) 015-181-00-1	25 - 50	Flam. Gas 1, H220 Press. Gas Acute Tox. 2 (Inhalation), H330 Skin Corr. 1B, H314 Aquatic Acute 1, H400

Full text of R- and H-statements: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Call a POISON CENTER or doctor/physician.
- First-aid measures after inhalation : Do not enter contaminated atmosphere, otherwise wear self contained breathing apparatus. Remove patient to fresh air, keep warm and at rest. Apply supportive measures if necessary. DO NOT give mouth-to-mouth resuscitation. Seek medical advice immediately.
- First-aid measures after skin contact : Remove immediately, brush or shake any residues from clothing and skin in a well-ventilated area. Allow clothes to aerate for a number of hours prior to machine washing. Seek medical advice immediately.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention.
- First-aid measures after ingestion : Immediately call a POISON CENTRE or doctor/physician.

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

- Symptoms/injuries : MISUSE OF THIS PRODUCT CAN BE FATAL. There is no effective treatment for phosphine poisoning. Less than one sixth of a 3g tablet (0.5g) is a fatal dose for a 70kg human, ingested or inhaled. Phosphine directly inhibits cytochrome oxidase in an action similar to that of cyanide. Symptoms of poisoning include epigastric burning vomiting thirst cardiovascular collapse acidosis and hypokalemia (potassium deficiency). IDLH (Immediately Dangerous to Life and Health) = 50ppm Phosphine.

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

Further information on all Rentokil Initial formulations is lodged with the local National Poisons Information Service.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Dry powder. Foam. Carbon dioxide.
- Unsuitable extinguishing media : Do not use extinguishing media containing water.

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

- Fire hazard : In case of fire hazardous combustion gases are formed, caustic phosphoric acid aerosols (phosphide pentoxide).

#### 5.3. Advice for firefighters

- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

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

##### 6.1.1. For non-emergency personnel

- Protective equipment : Wear suitable and use suitable personal protective clothing and equipment including self contained breathing apparatus (SCBA). All clothing and equipment should be machine washed immediately after use.

##### 6.1.2. For emergency responders

- Protective equipment : Wear suitable and use suitable personal protective clothing and equipment including self contained breathing apparatus (SCBA). All clothing and equipment should be machine washed immediately after use.

#### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Evacuate the spillage area and ensure the area is well ventilated. Wear and use suitable protective clothing and equipment using SCBA. Prevent dispersion. Clean up the remainder carefully. DO NOT USE WATER FOR CLEANING. The area should be kept secure and aerated until checked for zero gas concentration using appropriate gas sampling equipment. Remove as hazardous waste according to National or local legislation.

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### 6.4. Reference to other sections

See also sections 8 and 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Open the container outdoors immediately before use and ensure it is pointing away from you. Read the product label carefully for further instructions about handling and usage.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container in a cool dry ventilated place out of reach of children and away from food drink and animal feeding stuffs. Store in a safe place under lock and key. DO NOT STORE OPEN SACHETS. DO NOT RE-SEAL. Spontaneous combustion can arise due to sudden release of phosphine gas if a sachet having been opened once is then re-opened.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Magnesium phosphide; trimagnesium diphosphide (12057-74-8)		
EU	Local name	Phosphine
EU	IOELV TWA (mg/m <sup>3</sup> )	0.14 mg/m <sup>3</sup>
EU	IOELV STEL (mg/m <sup>3</sup> )	0.28 mg/m <sup>3</sup>

### 8.2. Exposure controls

Appropriate engineering controls : Where exposure may occur, engineering controls, rather than the provision of Personal Protective Equipment (PPE) should be employed. On completion of a risk assessment, the following PPE may be required:

Hand protection : Wear gloves.

Eye protection : When opening the sachet, point away from face and other people. Wear a full-face respirator with appropriate filter cartridge (which also meets P3 standard for particulates) or SCBA (Contact your PPE supplier for advice on suitable PPE and RPE).

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Suitable respiratory protective protection such as a full face respirator with appropriate filter cartridge (which also meets P3 standard for particulates) or SCBA (Contact your PPE supplier for advice on suitable PPE and RPE).

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Plates contain magnesium phosphide sealed in an aluminium foil sachet.

Colour : No data available

Odour : No data available

Odour threshold : No data available

pH : No data available

Relative evaporation rate (butylacetate=1) : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : -87.4 °C Phosphine

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : Extremely flammable gas

Vapour pressure : No data available

Relative vapour density at 20 °C : 1.2 Air = 1 (Phosphine)

Relative density : 1.17 Air = 1 ( Phosphine)

Density : 1.47 g/cm<sup>3</sup>

Solubility : No data available

Log Pow : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : No data available

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Oxidising properties : No data available  
Explosive limits : 1.79 - 1.89 vol % Hydrogen phosphide

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Highly reactive when in contact with water or acids, produces extremely flammable and very toxic hydrogen phosphide (phosphine), ammonia and carbon dioxide.

### 10.2. Chemical stability

Avoid contact with water and acids as this will cause magnesium phosphide to decompose in a violent reaction into extremely flammable and very toxic hydrogen phosphide.

### 10.3. Possibility of hazardous reactions

Avoid contact with water and acids as this will cause magnesium phosphide to decompose in a violent reaction into extremely flammable and very toxic hydrogen phosphide.

### 10.4. Conditions to avoid

Avoid contact with water acids and ambient humidity. Phosphine gas is considered to be corrosive to copper copper alloys silver and gold.

### 10.5. Incompatible materials

Avoid contact with water and acids as this will cause magnesium phosphide to decompose in a violent reaction into extremely flammable and very toxic hydrogen phosphide.

### 10.6. Hazardous decomposition products

Hydrogen phosphide, phosphoric pentoxide and phosphoric acid.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Fatal if swallowed. Dermal: Toxic in contact with skin. Inhalation:dust,mist: Fatal if inhaled.

Degesch Plates	
LD50 oral rat	11.2 mg/kg magnesium phosphide
LD50 dermal	900 mg/kg
LC50 inhalation rat (ppm)	0.015 ppm/4h magnesium phosphide
ATE CLP (oral)	5.000 mg/kg bodyweight
ATE CLP (dermal)	300.000 mg/kg bodyweight
ATE CLP (dust,mist)	0.005 mg/l/4h

Magnesium phosphide; trimagnesium diphosphide (12057-74-8)	
LD50 oral	11.2 mg/kg
LD50 dermal	900
LC50 inhalation rat (mg/l)	0.05 mg/l
ATE CLP (oral)	5.000 mg/kg bodyweight
ATE CLP (dermal)	300.000 mg/kg bodyweight
ATE CLP (gases)	10.000 ppmv/4h
ATE CLP (vapours)	0.050 mg/l/4h
ATE CLP (dust,mist)	0.005 mg/l/4h

Phosphine / Hydrogen phosphide (reaction product on contact with moisture) (7803-51-2)	
ATE CLP (gases)	100.000 ppmv/4h
ATE CLP (vapours)	0.500 mg/l/4h
ATE CLP (dust,mist)	0.050 mg/l/4h

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Not classified  
Respiratory or skin sensitisation : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Not classified  
Specific target organ toxicity (single exposure) : Not classified  
Specific target organ toxicity (repeated exposure) : Not classified  
Aspiration hazard : Not classified

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### SECTION 12: Ecological information

#### 12.1. Toxicity

##### Magnesium phosphide; trimagnesium diphosphide (12057-74-8)

LC50 fish 1	0.00097 mg/l
EC50 Daphnia 1	0.2 mg/l

#### 12.2. Persistence and degradability

##### Degesch Plates

Persistence and degradability	Phosphine decomposes in the atmosphere within 5-28h.
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#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods : All pesticides must be disposed of as hazardous waste. All waste active or deactivated should be treated as hazardous waste and disposed of by a licensed waste disposal contractor. Disposal of waste packaging: Ventilate empty containers until no more phosphine is detected and then dispose of as hazardous waste via an authorised waste disposal contractor. Disposal of product residues: Where possible collect product residues wearing appropriate PPE and deactivate following manufacturers guidance. Dispose of liquid and solid residues via an authorised waste disposal contractor. Disposal of used PPE (gloves coveralls, respirators): Place used PPE in plastic bags and seal. Dispose of hazardous waste, EWC code 15 02 02\*.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: 2011
UN-No. (IATA)	: 2011
UN-No. (IMDG)	: 2011
UN-No. (ADN)	: 2011

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: MAGNESIUM PHOSPHIDE
Proper Shipping Name (IATA)	: Magnesium phosphide
Proper Shipping Name (IMDG)	: MAGNESIUM PHOSPHIDE
Proper Shipping Name (ADN)	: MAGNESIUM PHOSPHIDE
Transport document description (ADR)	: UN 2011 MAGNESIUM PHOSPHIDE (MIXTURE), 4.3 (6.1), I, (E), ENVIRONMENTALLY HAZARDOUS

#### 14.3. Transport hazard class(es)

Class (ADR)	: 4.3
Classification code (ADR)	: WT2
Class (IATA)	: 4.3
Class (IMDG)	: 4.3
Class (ADN)	: 4.3
Classification code (ADN)	: WT2
Subsidiary risk (ADR)	: 6.1
Subsidiary risk (IMDG)	: 6.1
Danger labels (ADR)	: 4.3, 6.1



Division (IATA) : 4.3

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Hazard labels (IATA) : 4.3, 6.1



Danger labels (IMDG) : 4.3, 6.1



Danger labels (ADN) : 4.3, 6.1



### 14.4. Packing group

Packing group (ADR) : I  
Packing group (IATA) : I  
Packing group (IMDG) : I  
Packing group (ADN) : I

### 14.5. Environmental hazards

Dangerous for the environment : Yes  
Marine pollutant : Yes



Other information : No supplementary information available.

### 14.6. Special precautions for user

#### 14.6.1. Overland transport

Classification code (ADR) : WT2  
Transport category (ADR) : 1  
Tunnel restriction code (ADR) : E  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E0  
EAC code : 4W

#### 14.6.2. Transport by sea

Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E0  
Packing instructions (IMDG) : P403  
Special packing provisions (IMDG) : PP31  
EmS-No. (Fire) : F-G  
EmS-No. (Spillage) : S-N  
Stowage category (IMDG) : E  
Stowage and segregation (IMDG) : Under deck in a mechanically ventilated space.?'Clear of living quarters.?'Separated from' acids.  
Properties and observations (IMDG) : Solid. Reacts with acids or decomposes slowly in contact with water or damp air, evolving phosphine, a spontaneously flammable and highly toxic gas. Reacts violently with oxidizing substances.?'Toxic if swallowed, by skin contact or by inhalation.

#### 14.6.3. Air transport

CAO packing instructions (IATA) : 487  
CAO max net quantity (IATA) : 15kg  
PCA packing instructions (IATA) : Forbidden  
PCA Limited quantities (IATA) : Forbidden  
PCA limited quantity max net quantity (IATA) : Forbidden  
PCA max net quantity (IATA) : Forbidden

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PCA Excepted quantities (IATA) : E0  
ERG code (IATA) : 4PW

### 14.6.4. Inland waterway transport

Special provisions (ADN) : 82  
Limited quantities (ADN) : 0  
Excepted quantities (ADN) : E0  
Equipment required (ADN) : PP, EP, EX, TOX, A  
Ventilation (ADN) : VE01, VE02  
Provisions for handling and stowage of the cargo (ADN) : HA08  
Number of blue cones/lights (ADN) : 2  
Carriage prohibited (ADN) : No

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions  
Contains no substance on the REACH candidate list  
Contains no REACH Annex XIV substances

#### 15.1.2. National regulations

No additional information available

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 1 (Inhalation)	Acute toxicity (inhal.), Category 1
Acute Tox. 1 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 1
Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Flam. Gas 1	Flammable gases, Category 1
Press. Gas	Gases under pressure
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Water-react. 1	Substances and Mixtures which, in contact with water, emit flammable gases, Category 1
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
EUH029	Contact with water liberates toxic gas
EUH032	Contact with acids liberates very toxic gas
R12	Extremely flammable
R15	Contact with water liberates extremely flammable gases
R17	Spontaneously flammable in air
R21	Harmful in contact with skin
R26	Very toxic by inhalation
R26/28	Very toxic by inhalation and if swallowed
R29	Contact with water liberates toxic gas
R32	Contact with acids liberates very toxic gas



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R34	Causes burns
R50	Very toxic to aquatic organisms
C	Corrosive
F	Highly flammable
F+	Extremely flammable
N	Dangerous for the environment
T+	Very toxic
Xn	Harmful

RI - SDS EU (REACH Annex II)

**Before using any product, ensure that you read and understand its label.**

The information contained in this safety data sheet is, to the best of our knowledge and belief, accurate and reliable at the time of publication. The information relates only to the specific material designated in this safety data sheet and may not be valid for such material if it is used in combination with any other material(s) or any other use than that specified herein. Neither Rentokil Initial plc nor any of its subsidiaries accepts any liability for the use of this product for any other purpose than that described in this safety data sheet. This does not affect your statutory rights. It is the user's responsibility to satisfy him/herself as to the suitability in completeness of such information for his/her own particular use.

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