



Control of Substances Hazardous to Health Regulations 2002 (as amended). - The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020.

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

#### 1.1 Product identifier

Talunex (UK-2016-1044-0002/ UK-2018-1118-0002/ MAPP 17001) UFI: 8KM7-GJVU-R105-Y4SS

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

**Relevant identified uses:** A vertebrate control agent for professional use only.

Uses advised against: Use only as instructed.

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

Address: Killgerm Chemicals Ltd, Wakefield Road, Ossett, WF5 9AJ

Tel: +44 (0)1924 268 450 Fax: +44 (0)1924 265 033 Email: technical@killgerm.com

#### 1.4. Emergency telephone number

Medical professionals should use National Poisons Information Service Tel: 0870 600 6266. Killgerm Chemicals Ltd Tel:01924 268400 (Office hours) Emergency Line: 01865407333 Non-medical professionals should seek information by contacting NHS by dialling 111.

## **SECTION 2:** Hazards identification

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

H260: In contact with water releases flammable gasses which may ignite spontaneously. Water-react. Cat.1

Acute Toxicity Cat2. (oral)

Acute Toxicity Cat3. (dermal) Eye Damage Cat1.

Acute Toxicity Cat2 (inhale)

Aquatic Acute Cat1.

H300: Fatal if swallowed.

H311: Toxic in contact with skin. H318: Causes serious eye damage.

H330: Fatal if inhaled.

H400: very toxic to aquatic life.

#### 2.2. Label elements



Signal Word: Danger

Hazard-determining components of labelling:

Aluminium Phosphide Ammonium Carbamate **Hazard statements:** 

**H260:** In contact with water releases flammable gasses which may ignite spontaneously.

H300+H330: Fatal if swallowed or if inhaled. **H311:** Toxic in contact with skin H318: Causes serious eye damage.

**H400:** Very toxic to aquatic life.

**Precautionary statements:** 

P223: Do not allow 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 environment.

**P280:** Wear protective gloves, protective clothing, eye protection, face protection, hearing protection.

**P301+P310:** IF SWALLOWED: Immediately call a poison centre/doctor.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P335: Brush off loose particles from skin.

P370+P378: In case of fire: use dry sand or extinguishing powder, then CO<sub>2</sub> to extinguish.

**P402+P404:** Store in a dry well-ventilated place, store in a closed container.

P405: Store locked up.

**EUH-Statements:** 

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

**EUH401:** To avoid risks to human health and the environment, comply with instructions for use.

## 2.3. Other hazards

PBT: Aluminium phosphide meets the T criterion, but not the P or B criterion.

vPvB: This mixture does not contain any substances that are considered to be very persistent or very bioaccumulative (vPvB).

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Labelling according to The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019

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## **SECTION 3:** Composition/information on ingredients

#### 3.2 Mixtures

## **Hazardous Components in Product**

Ingredient Name	Product identifier	Concentration	Classification
Aluminium Phosphide	CAS-No.) 20859-73-8 (EC-No.) 244-088-0 (EC Index-No.) 015-004-00-8	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) EUH029, EUH032
Ammonium Carbamate	(CAS-No.) 1111-78-0 (EC-No.) 214-185-2	21%	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318

See section 16 for full text of H phrases and hazard classification of ingredients.

## **SECTION 4:** First aid measures

## 4.1. Description of first aid measures

#### **General information:**

- Avoid any unnecessary contact with the product.
- Call a doctor immediately in the event of an accident or if you feel unwell.
- Tell the doctor the cause of Hydrogen Phosphide and, if possible, show the safety data sheet or label.
- Do not leave affected persons unattended and take them to fresh air or out of the danger zone. Immediately knock out any clothing soiled by the product in a well-ventilated place and then remove it.
- Remove breathing equipment only after contaminated clothing have been completely removed.
- Allow contaminated clothing to ventilate well before washing and do not store in closed rooms without ventilation!

#### After inhalation:

Immediate removal from the danger area! A supply of fresh air or oxygen must be provided. Seek immediate medical advice. Provide artificial respiration if breathing is irregular or has stopped breathing.

#### After skin contact:

Brush off loose particles from the skin. Wash skin with plenty of soap and water. If skin irritation or rash occurs: Get medical advice / attention.

## After eye contact:

Rinse eyes under running water for several minutes with the eyelid wide open. Remove any contact lenses that may be present and continue rinsing. Consult a doctor for control and if eye irritation persists.

## After swallowing:

Do not induce vomiting; call for medical help immediately. Bring vomit that has already been vomited by the affected person outside.

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

Breathing difficulty, Headache, Dizziness, Gastric or intestinal disorders, Nausea.

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

Symptomatic treatment. Symptoms may be delayed after exposure (up to 48 hours later). Avoid acidosis and prevent pulmonary edema.

No antidote available.

Inhalative treatment on glucocorticoid basis to prevent pulmonary edema.

## **SECTION 5:** Firefighting measures

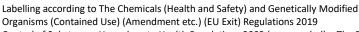
## 5.1. Extinguishing media

Suitable extinguishing agents: Fire-extinguishing powder, CO<sub>2</sub>, Dry Sand, Use a fire blanket for smaller fires.

Unsuitable extinguishing agents: DO NOT use foam and extinguishing agents containing water!

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

In contact with water, highly flammable and very toxic gases are released.

## 5.3. Advice for firefighters

**Special protective equipment for firefighters:** Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots, and gloves) (EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (EN 137).

Do not inhale explosion and fire gases. Co-ordinate fire-fighting measures to the surroundings. Fight fire with normal precautions from a reasonable distance.

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

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

#### **Protective equipment:**

Observe the information on exposure limitation and use personal protective equipment as described in Section 8.

#### **Emergency procedures:**

Ensure adequate ventilation.

Have measuring devices and first aid kit ready.

Keep unprotected persons not working in the area away from the danger area. The danger area is

to be made clear by warning signs.

Keep away from ignition sources.

## 6.2. Environmental precautions

Do not allow the product to get to the sewers, ground, or surface waters.

Do not rinse product to the sewers.

In case of water contamination - inform appropriate authorities immediately.

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

Pick up mechanically.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents.

## 6.4. Reference to other sections

See section 8 for protective clothing, see section 7 for safe handling, see section 13 for disposal.

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

## 7.1. Precautions for safe handling

Use of the product only by knowledgeable and qualified persons.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Avoid any contact of the product with water!

Do not breathe the product dust.

## Advice on general hygiene in the workplace:

Take off contaminated clothing immediately. Wash hands after use. Do not eat, drink or smoke in work areas. Remove contaminated clothing and protective equipment before entering any eating area. Do not store food and drinks with chemicals. Do not use containers for chemicals that are normally intended for holding food. Keep away from food, drink and animal feed. Do not breathe gas / vapor / aerosol. Avoid contact with eyes and skin.

## Information about fire - and explosion protection:

Avoid dust formation.

If the product is handled openly, devices with local exhaust ventilation must be used.

Protect against electrostatic charges.

Keep away from sources of ignition. Do not smoke!

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7.2. Conditions for safe storage, including any incompatibilities.

## Requirements to be met by storerooms and receptacles:

Keep container tightly closed and store in a cool, well-ventilated place.

Keep inaccessible to non-operational and non-specialist persons.

## Information about storage in one common storage facility:

Do not store together with acids, water, oxidizing substances, and self-igniting substances.

Do not store food and drinks with chemicals. Do not use containers for chemicals that are normally intended for holding food. Keep away from food, drink, and animal feed.

Further information about storage conditions: None.

## 7.3. Specific end use(s)

See section 1.2.

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

## 8.1. Control parameters

Ingredients with limit values that require monitoring in the workplace.		
CAS: 200859-73-8 Aluminium phosphide		
WEL	Long term value: 2 mg/m <sup>3</sup>	
Additional occupational exposure limit values for possible hazards during processing.		
CAS: 7803-51-2 Phosphine		
WEL	Short term value: 0.28mg/m³, 0.2ppm	
	Long term value: 0.14 mg/m³, 0.1ppm	

#### Additional information:

The lists valid during the making were used as basis.

Electronic measuring devices are recommended for monitoring the concentration of hydrogen phosphide in the workplace.

## 8.2. Exposure controls

Technical and organizational protective measures are to be used with preference (personal protective equipment must not be a permanent measure). Wash hands before breaks and at the end of work. Immediately knock out any clothing soiled by the product in a well-ventilated place and then remove it. Only remove respiratory protection after removing contaminated clothing. Store protective equipment separately, check it regularly, clean it and replace it if necessary. Before washing, let contaminated clothing ventilate well and do not store in closed rooms without ventilation! Keep away from foodstuffs, beverages, and feed.

Avoid contact with the eyes and skin.

PPE	Item in use	Spillage
Respirators	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. For the use of a respiratory filter device: filter colour grey (type B, inorganic gases, and vapours), in dusty environments a combination filter is recommended (filter colour white, filter type P).	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.  For the use of a respiratory filter device: filter colour grey (type B, inorganic gases, and vapours), in dusty environments a combination filter is recommended (filter colour white, filter type P).
Gloves	Protective Gloves to EN 374-1 at least type B e.g., Nitrile.	Protective Gloves to EN 374-1 at least type B e.g., Nitrile.
Overall	For preparatory and follow-up work: long-sleeved work clothes and safety shoes If the gas concentration is unknown or increased: Suitable chemical protective suit.	For preparatory and follow-up work: long-sleeved work clothes and safety shoes If the gas concentration is unknown or increased: Suitable chemical protective suit.

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Goggles / Face shield	Wear tightly fitting protective Safety glasses to EN 166	Wear tightly fitting protective Safety glasses to EN 166

## **SECTION 9: Physical and chemical properties**

## 9.1. Information on basic physical and chemical properties

Appearance: Solid Grey Pellet.
Odour: Garlic-like.

Odour threshold: Not applicable as substance is toxic to inhalation.

pH: Not applicable.

Melting point/freezing point: Undetermined
Initial boiling point/boiling range: Undetermined
Flash point: Not applicable.

Evaporation rate: Not applicable.

Flammability: Contact with water liberates extremely flammable gases.

Upper/lower flammability or explosive limits:

Vapor pressure:

Vapor density:

Not applicable.

Not applicable.

Not applicable.

1,791-1,857 g/cm³

Relative density:

1,87864-2,01470

Solubility(ies): Not applicable (reaction with water leads to decomposition). Partition coefficient n-octanol/water (log Kow): Not applicable (reaction with water leads to decomposition).

Auto-ignition temperature: Product is not self-igniting.

Decomposition temperature: No available data. Viscosity: No available data.

Explosive properties: Product does not present an explosion hazard.

Oxidising properties: None, no ingredients with oxidizing properties.

9.2 Other Information.

No further relevant information

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

## 10.1. Reactivity.

Reactive with water and acids.

#### 10.2. Chemical stability.

Thermal decomposition / conditions to be avoided: Release of ammonia and carbon dioxide.

#### 10.3. Possibility of hazardous reactions.

Contact with water releases flammable gases. Contact with water releases toxic gases.

#### 10.4. Conditions to avoid.

Protect from moisture.

Avoid high temperatures.

Protect from contact with acids.

## 10.5. Incompatible materials.

Protect from moisture.

Protect from contact with acids.

## 10.6. Hazardous decomposition products.

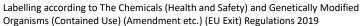
Ammonia

Hydrogen Phosphide

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Contact with water releases flammable gases.

Contact with water releases toxic gases.

## **SECTION 11:** Toxicological information

## 11.1. Information on toxicological effects

Classification of the product was conducted by calculation method according to regulation 1272/2008 based on the content of hazardous ingredients:

a) acute toxicity: Fatal if swallowed or inhaled. / Toxic in contact with skin.

Information has been derived from the properties of the individual ingredients.

LD/LC50 Values:		
ATE (Acute Toxicity Estimates)		
Oral	LD50	>15.5 mg/kg (Rat (Rattus spec.))
Dermal	LD50	821 – 1.607 mg/kg (Rat (Rattus spec.))
Inhalative	LC50/4h	0.0857 mg/l (Rat (Rattus spec.))

Aluminium Phosphide CAS:20859-73-8		
Oral	LD50	8.7 mg/kg (Rat (Rattus spec.))
Dermal	LD50	460-900 mg/kg (Rat (Rattus Spec.))
Inhalative	LC50/4h	0.048 mg/l (Rat (Rattus Spec.)) (phosphine generated from aluminium phosphide)
	LC50/4h	0.015 mg/l (Rat (Rattus spec.))
		11 ppm phosphine (equivalent to 0.015 mg phosphine/L air or 2.8 mg/kg bw))

Ammonium carbamate CAS: 1111-78-0		
Oral	LD50	>681 mg/kg (Rat (Rattus spec.))
Dermal	LD50	>2,000 mg/kg (Rat (Rattus spec.))
Inhalative	LC50/4h	6.6 mg/l (Rat (Rattus spec.))

- b) Skin corrosion/irritation: Based on data available classification criteria are not met.
- c) Serious eye damage/irritation: Causes serious eye damage.
- d) respiratory or skin sensitisation: Based on data available classification criteria are not met.
- e) (Germ cell) mutagenicity: Based on data available classification criteria are not met
- f) carcinogenicity: product does not contain any compounds with carcinogenic hazard.
- g) reproductive toxicity: Based on data available classification criteria are not met.
- h) STOT- single exposure: Based on data available classification criteria are not met.
- i) STOT- repeated exposure: Based on data available classification criteria are not met.
- j) Aspiration hazard: Based on data available classification criteria are not met.

### 11.2. Other Data

See section 2.3.

# **SECTION 12:** Ecological information

## 12.1. Toxicity

Aquatic Toxicity.

Aluminium Phosphide CAS:20859-73-8		
ErC50/48h	1.44 mg/l (Algae)	
LC50/96h	0.00798 mg/l (Rainbow trout ( <i>Oncorhynchus mykiss</i> )	
EC50/24h	0.00018mg/l (Daphnia magna)	

## 12.2. Persistence and degradability

Decomposes in contact with water.

## 12.3. Bio accumulative potential

No further relevant information available.

## **Bioconcentration factor (BCF)**

Phosphine (calculated on the basis of log POW = 0.9):

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BCF fish = 1.16 L/kg

BCF earthworm = 0.94 L / kg.

## 12.4. Mobility in soil

No information is available about the Mobility in soil of the product.

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

PBT: Aluminium phosphide meets the T criterion, but not the P or B criterion.

vPvB: This mixture does not contain any substances that are considered to be very persistent or very bioaccumulative (vPvB).

## 12.6. Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

#### 12.7. Other adverse effects

Very toxic for fish.

#### Additional ecological information:

- Very toxic for aquatic organisms
- Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
- Do not allow product to reach ground water, water course or sewage system.
- Must not reach sewage water or drainage ditch undiluted or unnaturalised.
- Danger to drinking water if even small quantities leak into the ground

## **SECTION 13:** Disposal considerations

## 13.1. Waste treatment methods

Disposal of unused product, empty containers and contaminated packaging must be made in accordance with the local law. For information on disposal in the UK contact the environment agency (<a href="www.environment-agency.gov.uk">www.environment-agency.gov.uk</a>) or SEPA (<a href="www.SEPA.org.uk">www.SEPA.org.uk</a>).

Prior to disposal Packaging should be fully degassed, allowing any trace residue to react completely in a safe manner as detailed within the instructional leaflet supplied with the product.

Dispose of unused sealed product in the original container as hazardous waste.

Empty containers and contaminated PPE should be considered hazardous and disposed of appropriately.

Suggested waste code 200119 according to Guideline 2001/118/EC.

## **Uncleaned packaging:**

Give residue-emptied containers for local recycling, recovery or waste disposal.

## **SECTION 14:** Transport information

#### 14.1. UN number

ADR, IMDG, IATA UN1397

## 14.2. UN proper shipping name

ADR: 1397 ALUMINIUM PHOSPHIDE

**ENVIRONMENTALLY HAZARDOUS** 

IMDG: ALUMINIUM PHOSPHIDE, MARINE POLLUTANT

IATA: ALUMINIUM PHOSPHIDE

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

ADR:

Class: 4.3 Substances which, in contact with water, emit flammable gasses.

Label: 4.3+6.1

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IMDG:

Class: 4.3 Substances which, in contact with water, emit flammable gasses.

Label: 4.3/6.1

IATA:

Class: 4.3 Substances which, in contact with water, emit flammable gasses.

Label: 4.3(6.1)

#### 14.4. Packing group

ADR, IMDG, IATA

## 14.5. Environmental hazards

Marine Pollutant: Yes – Symbol (fish and tree)
Special marking (ADR): Symbol (Fish and tree)



## 14.6. Special precautions for user

Warning: Substances which, in contact with water, emit flammable gases.

Hazard id number (Kemler code): -

EMS Number: F-G,S-N

Stowage Code: SW2 Clear of living quarters. // SW5 If under deck, stow in a mechanically ventilated space.

Handling Code: H1 Keep as dry as reasonably practicable.

**Segregation Code:** SG26 In addition: from goods of classes 2.1 and 3 when stowed on deck of a containership a minimum distance of two container spaces athwartship shall be maintained, when stowed on ro-ro ships a distance of 6 m athwartship shall be maintained. SG35 Stow "separated from" SGG1-acids

## 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code.

Not applicable.

## **Transport/Additional information:**

ADR

Limited quantities (LQ) 0

Excepted quantities (EQ) Code: E0

Not permitted as Excepted Quantity

Transport Category 1
Tunnel restriction code E

**IMDG** 

Limited quantities (LQ) 0

Excepted quantities (EQ) Code: E0

Not permitted as Excepted Quantity

UN "Model Regulation": UN 1397 ALUMINIUM PHOSPHIDE, 4.3 (6.1), I, ENVIRONMENTALLY

**HAZARDOUS** 

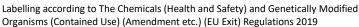
## **SECTION 15:** Regulatory information

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

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- Restricted to trained professional users in the UK and professional users in Ireland.
- Refer to other relevant measures such as the Health and Safety at Work etc Act 1974 and the COSHH regulations and guidance.
- The information contained in this data sheet does not constitute the user's own assessment of workplace risks as required by legislation.

#### Directive 2012/18/EU

Named dangerous substances – ANNEX I None of the ingredients is listed Seveso category

**H2 ACUTE TOXIC** 

O3 Substances or mixtures with hazard statement EUH029

E1 Hazardous to the Aquatic Environment

Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

#### **National regulations:**

Information about limitation of use: Employment restrictions concerning juveniles must be observed

## 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

## **SECTION 16:** Other information

Use only in accordance with label instructions.

Operatives using this product should be trained in its use.

The information in this data sheet should be considered when undertaking a risk assessment under the COSHH regulations.

#### List of relevant H phrases

H260 In contact with water releases flammable gasses which may ignite spontaneously.

H300 Fatal if swallowed.

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H318 Causes serious 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.

Issue number (date)	Section amended
Issue (Nov 2018)	Last update
Issue (Mar 2021)	Update to style and layout – some updates to minor wording.
Issue (Jul 2021)	Updated section 15 to UK regulations.
Issue (May 2022)	Updates across whole SDS
Issue (June 2023)	Changed emergency line phone No. (Section 1.4), updates to H phrases (Section 2.2), updates to firefighting measures (Section 5), updates to Section 11.1, Section 14 and Section 15. Minor word/phrase changes throughout.

## This safety data sheet does not constitute a COSHH assessment.

The information contained within this data sheet is strictly for general guidance only and should not be relied upon over and above this. This data sheet is intended to provide general health and safety guidance on the handling, storage, and transportation of the preparation. The information provided in this data sheet is accurate at the date of publication and will be updated as and when appropriate. No liability will be accepted by Killgerm Chemicals Limited for any loss, injury or damage arising from any failure to comply with the information and advice contained within this data sheet and/or failure to comply with the manufacturer's guidelines, product label data and any associated technical usage literature.

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