

## TALON SOFT

Version 1.0      Revision Date: 13.02.2018      SDS Number: S00000000772      This version replaces all previous versions.

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

#### 1.1 Product identifier

Trade name : TALON SOFT

Design code : A20136A

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

Use of the Substance/Mixture : Rodenticide

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

Company : Syngenta UK Limited  
CPC4, Capital Park  
Fulbourn, Cambridge CB21 5XE  
United Kingdom

Telephone : +44 (0) 1223 883400

Telefax : +44 (0) 1223 882195

E-mail address of person responsible for the SDS : customer.services@syngenta.com

#### 1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Reproductive toxicity, Category 1A      H360D: May damage the unborn child.

Specific target organ toxicity - repeated exposure, Category 2      H373: May cause damage to organs (blood) through prolonged or repeated exposure .

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### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements : H360D May damage the unborn child.  
H373 May cause damage to organs (blood) through prolonged or repeated exposure .

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P280 Wear protective gloves/ protective clothing.  
**Response:**  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
**Storage:**  
P405 Store locked up.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
brodifacoum (ISO)	56073-10-0 259-980-5 607-172-00-1	Acute Tox. 1; H300 Acute Tox. 1; H330 Acute Tox. 1; H310 Skin Sens. 1B; H317 Repr. 1A; H360D STOT RE 1; H372	$\geq 0.003$ - $< 0.02$

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		Aquatic Acute 1; H400 Aquatic Chronic 1; H410	
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For explanation of abbreviations see section 16.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.
- If inhaled : Move the victim to fresh air.  
If breathing is irregular or stopped, administer artificial respiration.  
Keep patient warm and at rest.  
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.  
Wash off immediately with plenty of water.  
If skin irritation persists, call a physician.  
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Remove contact lenses.  
Immediate medical attention is required.
- If swallowed : Take victim immediately to hospital.  
Do NOT induce vomiting.

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

- Symptoms : Symptoms of poisoning are typical of anticoagulants. In severe cases there may be bruising, haematomas of the joints, blood in the faeces and urine

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

- Treatment : This product contains anticoagulants with an effect similar to warfarin in that they act by interfering with the synthesis of prothrombin.

The specific measure of effect is the prothrombin time. Note this may not become prolonged until 12-18 hours after ingestion.

The specific antidote is vitamin K1 (Phytomenandione). Initially, antidote should be given by injection (10-20mg, or

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0.25mg/kg for children), by slow intravenous infusion at a rate not exceeding 1mg/minute. In severe cases the use of fresh frozen plasma may be required.

Maintenance treatment is given orally (40mg/day in divided doses for adults; up to 20mg/day in divided doses for children).

The prothrombin time and the haemoglobin should be monitored. Patients should be kept under medical supervision until the prothrombin time has been normal for 3 consecutive days.

Oral treatment may need continuing for several months (20mg/day in divided doses for adults and up to 20mg/day in divided doses for children). (For animal cases the dose is 2-5mg/kg).

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Suitable extinguishing media : Extinguishing media - small fires  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.  
Extinguishing media - large fires  
Alcohol-resistant foam  
or  
Water spray

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

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

Specific hazards during firefighting : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).  
Exposure to decomposition products may be a hazard to health.

#### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Further information : Do not allow run-off from fire fighting to enter drains or water courses.  
Cool closed containers exposed to fire with water spray.

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### SECTION 6: Accidental release measures

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

Personal precautions : Refer to protective measures listed in sections 7 and 8.  
Avoid dust formation.

#### 6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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

Methods for cleaning up : Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).  
Do not create a powder cloud by using a brush or compressed air.  
Clean contaminated surface thoroughly.  
Clean with detergents. Avoid solvents.  
Retain and dispose of contaminated wash water.

#### 6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : No special protective measures against fire required.  
Avoid contact with skin and eyes.  
When using do not eat, drink or smoke.  
For personal protection see section 8.

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

Requirements for storage areas and containers : No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

#### 7.3 Specific end use(s)

Specific use(s) : For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
brodifacoum (ISO)	56073-10-0	TWA	0.002 mg/m3	Syngenta

#### 8.2 Exposure controls

##### Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.  
Where necessary, seek additional occupational hygiene advice.

##### Personal protective equipment

Eye protection : No special protective equipment required.

##### Hand protection

Material : Nitrile rubber  
Break through time : > 480 min  
Glove length : 0.5 mm

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.  
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.  
Remove and wash contaminated clothing before re-use.  
Wear as appropriate:  
Dust impervious protective suit

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- Respiratory protection : No personal respiratory protective equipment normally required.  
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Protective measures : The use of technical measures should always have priority over the use of personal protective equipment.  
When selecting personal protective equipment, seek appropriate professional advice.
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### SECTION 9: Physical and chemical properties

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

- Appearance : solid
- Colour : blue
- Odour : none
- Odour Threshold : No data available
- pH : No data available
- Melting point/range** : No data available
- Boiling point/boiling range** : No data available
- Flash point : No data available
- Evaporation rate : No data available
- Flammability (solid, gas) : No data available
- Upper explosion limit / Upper flammability limit : No data available
- Lower explosion limit / Lower flammability limit : No data available
- Vapour pressure : No data available
- Relative vapour density : No data available
- Density : 1.1 g/cm<sup>3</sup>
- Solubility(ies)  
Solubility in other solvents : insoluble  
Solvent: Water

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Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity  
Viscosity, dynamic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

### 9.2 Other information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None reasonably foreseeable.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

### 10.5 Incompatible materials

Materials to avoid : None known.

### 10.6 Hazardous decomposition products

Hazardous decomposition products : No hazardous decomposition products are known.

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Information on likely routes of exposure :  
Ingestion  
Inhalation  
Skin contact  
Eye contact



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### Acute toxicity

#### Product:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

#### Components:

##### **brodifacoum (ISO):**

Acute oral toxicity : LD50 (Rat, female): 0.561 mg/kg  
LD50 (Rat, male): 0.418 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 0.00305 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
LC50 (Rat, male): 0.00486 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat, male): 5.21 mg/kg  
LD50 (Rat, female): 3.16 mg/kg

### Skin corrosion/irritation

#### Components:

##### **brodifacoum (ISO):**

Species : Rabbit  
Result : No skin irritation

### Serious eye damage/eye irritation

#### Components:

##### **brodifacoum (ISO):**

Species : Rabbit  
Result : No eye irritation

### Respiratory or skin sensitisation

#### Components:

##### **brodifacoum (ISO):**

Test Type : Buehler Test

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Species : Guinea pig  
Result : The product is a skin sensitiser, sub-category 1B.

### **Germ cell mutagenicity**

#### **Components:**

##### **brodifacoum (ISO):**

Germ cell mutagenicity-  
Assessment : Animal testing did not show any mutagenic effects.

### **Carcinogenicity**

#### **Components:**

##### **brodifacoum (ISO):**

Carcinogenicity -  
Assessment : No evidence of carcinogenicity in animal studies.

### **Reproductive toxicity**

#### **Components:**

##### **brodifacoum (ISO):**

Reproductive toxicity -  
Assessment : Some evidence of adverse effects on development, based on animal experiments.

### **STOT - repeated exposure**

#### **Components:**

##### **brodifacoum (ISO):**

Target Organs : Blood  
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

### **Further information**

#### **Components:**

##### **brodifacoum (ISO):**

Remarks : Excessive exposure slows blood clotting time and can cause bleeding, shock and death.

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### SECTION 12: Ecological information

#### 12.1 Toxicity

**Components:**

**brodifacoum (ISO):**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.04 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.45 mg/l  
Exposure time: 48 h
- Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.27 mg/l  
Exposure time: 72 h
- NOEC (Pseudokirchneriella subcapitata (green algae)): 0.01 mg/l  
End point: Growth rate  
Exposure time: 72 h
- M-Factor (Acute aquatic toxicity) : 10
- Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l  
Exposure time: 30 min
- M-Factor (Chronic aquatic toxicity) : 10

#### 12.2 Persistence and degradability

**Components:**

**brodifacoum (ISO):**

- Biodegradability : Result: Not rapidly biodegradable
- Stability in water : Degradation half life: ca. 300 d  
Remarks: Persistent in water.

#### 12.3 Bioaccumulative potential

**Components:**

**brodifacoum (ISO):**

- Bioaccumulation : Remarks: bioaccumulative

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### 12.4 Mobility in soil

**Components:**

**brodifacoum (ISO):**

Distribution among environmental compartments : Remarks: Low mobility in soil.

Stability in soil : Dissipation time: 157 d  
Percentage dissipation: 50 % (DT50)  
Remarks: Product is not persistent.

### 12.5 Results of PBT and vPvB assessment

**Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

**Components:**

**brodifacoum (ISO):**

Assessment : PBT substance.

### 12.6 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.  
Do not dispose of waste into sewer.  
Where possible recycling is preferred to disposal or incineration.  
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.  
Triple rinse containers.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not re-use empty containers.

Waste Code : 150110, packaging containing residues of or contaminated by dangerous substances

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### SECTION 14: Transport information

#### 14.1 UN number

Not regulated as a dangerous good

#### 14.2 UN proper shipping name

Not regulated as a dangerous good

#### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

#### 14.4 Packing group

Not regulated as a dangerous good

#### 14.5 Environmental hazards

Not regulated as a dangerous good

#### 14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

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

Not applicable for product as supplied.

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### SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
Not applicable

#### Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

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Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

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## SECTION 16: Other information

### Full text of H-Statements

H300 : Fatal if swallowed.  
H310 : Fatal in contact with skin.  
H317 : May cause an allergic skin reaction.  
H330 : Fatal if inhaled.  
H360D : May damage the unborn child.  
H372 : Causes damage to organs through prolonged or repeated exposure.  
  
H400 : Very toxic to aquatic life.  
H410 : Very toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Acute Tox. : Acute toxicity  
Aquatic Acute : Acute aquatic toxicity  
Aquatic Chronic : Chronic aquatic toxicity  
Repr. : Reproductive toxicity  
Skin Sens. : Skin sensitisation  
STOT RE : Specific target organ toxicity - repeated exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic

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Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

#### Classification of the mixture:

Repr. 1A                      H360D  
STOT RE 2                    H373

#### Classification procedure:

Calculation method  
Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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