



# SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

## Tower

Revision date 21-Sep-2022

Version 2 Supersedes Date: 28-Apr-2022

Product Code(s)

HRB00863-44

Print Date 21-Sep-2022

ADM.02253.H.1.A

12746

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

### 1.1. Product identifier

## Tower

#### Other means of identification

Pure substance/mixture Mixture

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

Recommended use Herbicide; Professional use  
Uses advised against No information available

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

Supplier ADAMA Agricultural Solutions UK Ltd  
Third Floor East  
1410 Arlington Business Park  
Theale  
READING  
RG7 4SA  
Tel: 01635 860555  
Fax: 01635 861555

#### For further information, please contact

E-mail address ukenquiries@adama.com

### 1.4. Emergency telephone number

Emergency Telephone National Chemical Emergency Centre (UK):  
Tel: 01865 407333 (24 hours)  
National Poisons Information Centre (Republic of Ireland)  
Tel: 01 809 2166 (8am – 10pm 7 days a week)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Carcinogenicity	Category 2 - (H351)
Reproductive toxicity	Category 2 - (H361d)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

### 2.2. Label elements

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

Contains Pendimethalin, Chlorotoluron

**Hazard pictograms****Signal word**

Warning

**Hazard statements**

H351 - Suspected of causing cancer  
 H361d - Suspected of damaging the unborn child  
 H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements**

P102 - Keep out of reach of children  
 P201 - Obtain special instructions before use  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P501 - Dispose of contents/ container to an approved waste disposal plant

**EU Specific Hazard Statements**

EUH208 - Contains ( 1,2-Benzisothiazolin-3-one ). May produce an allergic reaction  
 EUH401 - To avoid risks to human health and the environment, comply with the instructions for use

**Additional phrases for PPP**

SP1 - Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

**2.3. Other hazards****PBT & vPvB**

The product does not contain any substance(s) classified as PBT or vPvB.

**Endocrine Disruptor Information**

None known.

**Persistent Organic Pollutants**

Not applicable.

**SECTION 3: Composition/information on ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical name	CAS No	EC No	Index No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	REACH Registration Number
Pendimethalin	40487-42-1	254-938-2	609-042-00-X	24-28	Repr. 2 (H361d) Aquatic Acute 1 (H400) Aquatic Chronic 1		M = 100 M = 10	No data available

					(H410)			
Chlorotoluron	15545-48-9	239-592-2	616-105-00-5	19-24	Carc. 2 (H351) Repr. 2 (H361d) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)		M=10 M=1	No data available
Poly(oxy-1,2-ethanediy l), .alpha.-[tris(1-phenylet hyl)phenyl]-.omega.-hydroxy-	99734-09-5	-		3-6	Aquatic Chronic 3 (H412)			No data available
Diflufenican	83164-33-4	617-446-2	616-032-00-9	2-5	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)		M=10000 M=1000	No data available
1,2-Benzisothiazolin-3-one	2634-33-5	220-120-9	613-088-00-6	< 0.05	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Acute Tox. 4 (H302) Aquatic Acute 1 (H400)	Skin Sens. 1 :: C>=0.05%		01-212076154 0-60-XXXX

Acute toxicity estimates (ATEs) according to Part 3 of Annex VI to Regulation (EC) No 1272/2008 are indicated in this table, if available.

**Full text of H- and EUH-phrases: see section 16**

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>General advice</b>	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). First aider: Pay attention to self-protection.
<b>Inhalation</b>	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a doctor.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a doctor.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a doctor if necessary.
<b>Ingestion</b>	Rinse mouth. Drink plenty of water. If symptoms persist, call a doctor.
<b>Self-protection of the first aider</b>	Use personal protective equipment as required.

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

**Symptoms** None known.

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

**Note to doctors** Treat symptomatically.

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

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

**Specific hazards arising from the chemical** No information available.

### **5.3. Advice for firefighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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

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

**Personal precautions** Ensure adequate ventilation.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

### **6.2. Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

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

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

### **6.4. Reference to other sections**

**Reference to other sections** See section 8 for more information. See section 13 for more information.

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

### **7.1. Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

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

**Storage Conditions** Store locked up. Keep at a temperature not exceeding 35 °C.

## 7.3. Specific end use(s)

**Identified uses**

**Risk Management Methods (RMM)** The information required is contained in this Safety Data Sheet.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Chemical name	United Kingdom
Glycerol 56-81-5	TWA: 10 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup>
Sodium hydroxide 1310-73-2	STEL: 2 mg/m <sup>3</sup>

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

**Engineering controls** Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment  
Eye/face protection** Tight sealing safety goggles.

**Hand protection** Suitable chemical resistant gloves (EN 374) also with prolonged, direct contact (recommendation: protection index 6, corresponding > 480 minutes Permeability time (permeation) according to EN 374): e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm).

**Skin and body protection** Use suitable protective clothing and equipment if required, such as safety goggles certified to EN 166, gloves certified to EN 374, protective boots certified to EN 13832, and/or a water repellent woven coverall with 65% polyester and 35 % cotton.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

**Environmental exposure controls** Local authorities should be advised if significant spillages cannot be contained.

## SECTION 9: Physical and chemical properties

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

Property	Values	Method	Remarks
<b>Appearance</b>			
Physical state	: Liquid		
Colour	: yellow-orange		
Odour	: Organic		

<b>Odour threshold</b>	: No data available		
<b>pH</b>	: 5 - 7	CIPAC MT 75.3	solution (1%)
<b>Melting point / freezing point °C</b>	: No data available		
<b>Boiling point / boiling range °C</b>	: No data available		
<b>Flash point °C</b>	: > 100	EEC A.9	
<b>Evaporation rate</b>	: ----		
<b>Flammability (solid, gas)</b>	: Not applicable for liquids		
<b>Upper/lower flammability or explosive limits</b>	: No data available		
<b>Vapour pressure kPa</b>	: No data available		
<b>Vapour density</b>	: No data available		
<b>Relative density</b>	: 1.1-1.2	EEC A.3	
<b>Solubility(ies) mg/l</b>	: No data available		
<b>Partition coefficient Log Pow</b>	:		See Section 12 for additional Ecological Information
<b>Autoignition temperature °C</b>	: 425	EEC A.15	
<b>Decomposition temperature °C</b>	: No data available		
<b>Kinematic viscosity mm<sup>2</sup>/s 40 °C</b>	: 0.144 - 5.2	OECD 114	
<b>Surface tension</b>	: 36.8	EEC A.5	
<b>Particle Size</b>	: Not applicable		

## 9.2. Other information

**Bulk density g/ml** : ----

### 9.2.1. Information with regards to physical hazard classes

**Explosive properties** : Not an explosive  
**Oxidising properties** : Not oxidizing

### 9.2.2. Other safety characteristics

No information available ----

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

### 10.1. Reactivity

**Reactivity** No information available.

### 10.2. Chemical stability

**Stability** Stable under normal conditions.

#### Explosion data

**Sensitivity to mechanical impact** None.  
**Sensitivity to static discharge** None.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** None under normal processing.

### 10.4. Conditions to avoid

**Conditions to avoid** None known based on information supplied.

### 10.5. Incompatible materials

**Incompatible materials** None known based on information supplied.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** None known based on information supplied.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Oral LD50 mg/kg	: > 2000	Rat	OECD 423	No data available
Dermal LD50 mg/kg	: > 2000	Rat	OECD 402	
Inhalation LC50 mg/l	: ----			
Skin corrosion/irritation	: Non-irritating to the skin	Rabbit	OECD 404	
Serious eye damage/eye irritation	: Not irritating to eyes	Rabbit	OECD 405	
Sensitisation	: Not a skin sensitiser	Guinea pig	OECD 406	

#### Chronic toxicity

##### Germ cell mutagenicity

###### Chemical name

Pendimethalin	: Not classified
Chlorotoluron	: Not classified
Diflufenican	: Not classified

##### Carcinogenicity

###### Chemical name

Pendimethalin	: Not Carcinogenic
Chlorotoluron	: Suspected of causing cancer
Diflufenican	: Not Carcinogenic

##### Reproductive toxicity

###### Chemical name

Pendimethalin	: H361d - Suspected of damaging the unborn child
Chlorotoluron	: Suspected of damaging fertility or the unborn child
Diflufenican	: Not toxic for the reproductive system

##### STOT - Single Exposure

###### Chemical name

Pendimethalin	: No data available
Chlorotoluron	: Not classified
Diflufenican	: No data available

##### STOT - Repeated Exposure

###### Chemical name

Pendimethalin	: No data available
Chlorotoluron	: Not classified
Diflufenican	: No data available

##### Aspiration hazard

###### Chemical name

Pendimethalin	: No data available
Chlorotoluron	: Not classified
Diflufenican	: No data available

### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

#### 11.2.2. Other information

Other adverse effects No information available.

## SECTION 12: Ecological information

### 12.1. Toxicity

<u>Acute toxicity</u>	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Fish 96-hour LC50 mg/l	: 5.91	Oncorhynchus mykiss	OECD 203	
Crustacea 48-hour EC50 mg/l	: 89.7	Daphnia magna	OECD 202	
Algae 72-hour EC50 mg/l	: 0.0277	D. Subspicatus	OECD 201	
Other plants EC50 mg/l	: 1.79	M. spicatum		14 days

<u>Chronic aquatic toxicity</u>	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Fish NOEC mg/l	: 2.9	Rainbow trout	OECD 203	
Crustacea NOEC mg/l	: 25.8	Daphnia magna	OECD 202	
Algae NOEC mg/l	: 0.00128	D. Subspicatus	OECD 201	
Other plants NOEC mg/l	: 0.455	Myriophyllum spicatum		

### Terrestrial Toxicity

#### Birds Oral LD50 mg/kg

##### Chemical name

Pendimethalin	: 1421	Mallard duck		
Chlorotoluron	: 272	Japanese quail	EPA-FIFRA 71-1	
Diflufenican	: > 2150	Bobwhite quail		

#### Bees Oral LD50 µg/bee

##### Chemical name

Pendimethalin	: > 101.2		EPPO 170	
Chlorotoluron	: > 20			
Diflufenican	: > 100	Apis mellifera	EPPO 170	

### 12.2. Persistence and degradability

#### Abiotic Degradation

##### Water DT50 days

##### Chemical name

Pendimethalin	: 31.8			
Chlorotoluron	: > 200			pH 7; 30 ° C
Diflufenican	: 1-5		BBA IV: 5-1	

##### Soil DT50 days

##### Chemical name

Pendimethalin	: 182		SETAC	
Chlorotoluron	: 8.5 - 92.5			
Diflufenican	: 128		EPA / SETAC	

#### Biodegradation

##### Chemical name

Pendimethalin	: No information available			
Chlorotoluron	: Not readily biodegradable		OECD 301 B	
Diflufenican	: No information available			

### 12.3. Bioaccumulative potential

#### Partition Coefficient

##### (n-octanol/water) Log Pow

##### Chemical name

	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Pendimethalin	: 5.4	EEC A.8	
Chlorotoluron	: 2.5	OECD 107	
Diflufenican	: 4.2	OECD 117	

#### Bioconcentration factor (BCF)

##### Chemical name

Pendimethalin	: 1536		
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Chlorotoluron	:		No data available
Diflufenican	:	1276 - 1596	OECD 305

#### 12.4. Mobility in soil

Adsorption/Desorption Chemical name	Values	Method	Remarks
Pendimethalin	: 13792		KOC
Chlorotoluron	: 108 - 384	OECD 106	KOC
Diflufenican	: 3417		KOC

#### Endocrine Disruptor Information

#### 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. Endocrine disrupting properties

**Endocrine disrupting properties** No information available.

#### 12.7. Other adverse effects

No information available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Improper disposal or reuse of this container may be dangerous and illegal.
<b>Other information</b>	Waste codes should be assigned by the user based on the application for which the product was used.

### SECTION 14: Transport information

#### ADR

<b>14.1 UN number</b>	UN3082
<b>14.2 UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pendimethalin, Chlorotoluron)
<b>14.3 Transport hazard class(es)</b>	9
<b>14.4 Packing group</b>	III
<b>Description</b>	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pendimethalin, Chlorotoluron), 9, III
<b>14.5 Environmental hazard</b>	Yes
<b>14.6 Special Precautions for Users</b>	
<b>Special Provisions</b>	274, 335, 601, 375
<b>Classification code</b>	M6

#### RID

<b>14.1 UN number</b>	UN3082
<b>14.2 UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pendimethalin, Chlorotoluron)
<b>14.3 Transport hazard class(es)</b>	9
<b>14.4 Packing group</b>	III
<b>Description</b>	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pendimethalin, Chlorotoluron), 9, III
<b>Environmental hazard</b>	Yes
<b>Special Precautions for Users</b>	
<b>14.5 Environmental hazard</b>	Yes
<b>14.6 Special Precautions for Users</b>	
<b>Special Provisions</b>	274, 335, 375, 601

Classification code M6

**IMDG**

14.1 UN number UN3082  
14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pendimethalin, Chlorotoluron)  
14.3 Transport hazard class(es) 9  
14.4 Packing group III  
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pendimethalin, Chlorotoluron), 9, III, Marine pollutant  
14.5 Environmental hazard Yes  
14.6 Special Precautions for Users P  
14.5 Marine pollutant Environmental hazard Yes  
14.6 Special Precautions for Users Special Provisions 274, 335, 969  
EmS-No F-A, S-F  
IMDG Stowage and segregation Category A No information available  
14.7 Maritime transport in bulk according to IMO instruments No information available

**IATA**

14.1 UN number UN3082  
14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pendimethalin, Chlorotoluron)  
14.3 Transport hazard class(es) 9  
14.4 Packing group III  
Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pendimethalin, Chlorotoluron), 9, III  
14.5 Environmental hazard Yes  
14.6 Special Precautions for Users Special Provisions A97, A158, A197  
ERG Code 9L



\* Note: UN3077 & UN3082 – These products may be transported as non-dangerous goods under the special provisions of IMDG Code 2.10.2.7; ADR SP375 and ICAO/IATA A197 when packed in single or inner packaging of up to 5L for liquids or 5 kg or less for solids

**SECTION 15: Regulatory information**

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

Trade name / designation	Registration Number(s)	Date
Not Applicable	Not Applicable	Not Applicable

**European Union**

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

**Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This

product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

#### Persistent Organic Pollutants

Not applicable

### 15.2. Chemical safety assessment

#### Chemical Safety Report

A risk assessment was performed according to directive (EC) No. 91/414 or according to regulation (EC) No. 1107/2009

## SECTION 16: Other information

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### Full text of H-Statements referred to under section 3

H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H351 - Suspected of causing cancer  
H361d - Suspected of damaging the unborn child  
H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects  
H412 - Harmful to aquatic life with long lasting effects

#### Legend

SVHC: Substances of Very High Concern for Authorisation:

#### Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Revision date 21-Sep-2022

Reason for revision SDS sections updated

#### Abbreviations and acronyms

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road  
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
CAS Number - Chemical Abstracts Service number  
EC Number - EINECS and ELINCS Number  
EINECS - European Inventory of Existing Commercial Substances  
ELINCS - European List of notified Chemical Substances  
IATA - International Air Transport Association  
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air  
IMDG - International Maritime Dangerous Goods  
LC50 - Lethal Concentration to 50 % of a test population  
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)  
OECD - Organization for Economic Co-operation and Development  
PBT - Persistent, Bioaccumulative and Toxic substance  
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail  
STOT - Specific Target Organ Toxicity  
vPvB - Very Persistent and Very Bioaccumulative

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

Classification of the mixture

Classification procedure

H351 - Suspected of causing cancer  
H361d - Suspected of damaging the unborn child  
H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects

Classification based on Calculation method  
Classification based on Calculation method  
Classification based on test data  
Classification based on Calculation method

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Disclaimer**

**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.**

**End of Safety Data Sheet**