



# SAFETY DATA SHEET

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

## Linagan SC

Revision date 03-Oct-2022

Version 3 Supersedes Date: 20-Dec-2018

Product Code(s)

HRB00893-27

Print Date 03-Oct-2022

ADM.04450.H.2.A 20195

## 1. Identification

### Product identifier

## Linagan SC

### Other means of identification

Synonyms	Linagan SC
Formulation type	SC
Registration Number(s)	L6294
Pure substance/mixture	Mixture

### Recommended use of the chemical and restrictions on use

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

### Detailed information about the manufacturer, supplier, and/or importer

Supplier	ADAMA SOUTH AFRICA (PTY) LTD Ground Floor, Simeka House The Vineyards Office Estate 99 Jip de Jager Drive Bellville 7530
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### Emergency telephone number

Emergency Telephone	+27 82 446 8946 (Griffon Poison Centre) +27 86 155 5777 (Tygerberg Poison Information Centre) +27 86 100 6366 and +27 83 253 6618 (SPILL TECH)
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E-mail address	SDS@ADAMA.COM
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## 2. Hazard(s) identification

### Classification of the substance or mixture

Carcinogenicity	Category 2 - (H351)
Reproductive toxicity	Category 1B - (H360)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)
Acute aquatic toxicity	Category 1 - (H400)
Chronic aquatic toxicity	Category 1 - (H410)

**Label elements**

Signal word Danger

**Hazard pictograms****Hazard statements**

H351 - Suspected of causing cancer  
 H360 - May damage fertility or the unborn child  
 H373 - May cause damage to organs through prolonged or repeated exposure  
 H410 - Very toxic to aquatic life with long lasting effects

**Precautionary statements**

P102 - Keep out of reach of children  
 P203 - Obtain, read and follow all safety instructions before reuse  
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
 P273 - Avoid release to the environment  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection  
 P318 - If exposed or concerned get medical advice.  
 P319 - Get medical help if you feel unwell  
 P391 - Collect spillage  
 P405 - Store locked up  
 P501 - Dispose of contents/ container to an approved waste disposal plant

**Additional information**

This product is classified as hazardous according to the criteria in South Africa - GHS classification and labelling of chemicals – SANS10234 and the Regulations for Hazardous Chemical Agents - 2021.

**Other hazards**

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

**3. Composition/information on ingredients****Substance**

Not applicable

**Mixture****Synonyms**

Linagan SC

Chemical name	CAS No	Weight-%	EC No	INTERNATIONAL GHS CLASSIFICATION	M-Factor
Linuron	330-55-2	39-44	206-356-5	Acute Tox. 4 (H302) Repr. 1B (H360) Carc. 2 (H351) STOT RE 2 (H373) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=100 M=10
Monoethylene glycol	107-21-1	3-5	203-473-3	Acute Tox. 4 (H302) STOT RE 2 (H373)	

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

#### Additional information

Note: The other ingredients do not cause or contribute towards the correct GHS classification of Linagan SC and are therefore, in terms of the South African Regulations for Hazardous Chemical Agents - 2021. Regulation 14(b), not listed in the table above.

## 4. First-aid measures

### Description of necessary 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 physician.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.
<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 physician.
<b>Ingestion</b>	Rinse mouth. Drink plenty of water. Get medical attention immediately if symptoms occur.

### For emergency responders

**Self-protection of the first aider** Use personal protective equipment as required.

### Most important symptoms/effects, acute and delayed

**Symptoms** None known.

### Indication of immediate medical attention and special treatment needed, if necessary

**Note to physicians** Treat symptomatically.

## 5. Fire-fighting measures

### Suitable 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.

### Specific hazards arising from the chemical

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

### Specific/special fire-fighting measures

**Specific/special fire-fighting measures** No information available.

### Special protective equipment and precautions for fire-fighters

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

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.

### Environmental precautions

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

### 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** Pick up and transfer to properly labeled containers.

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

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

## 7. Handling and storage

### Preventive measures 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. Ensure adequate ventilation.

### Precautions for safe handling

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Store locked up.

## 8. Exposure controls/personal protection

### Control parameters

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

Chemical name	ACGIH TLV
Monoethylene glycol 107-21-1	STEL: 50 ppm vapor fraction STEL: 10 mg/m <sup>3</sup> inhalable particulate matter, aerosol only TWA: 25 ppm vapor fraction

### Appropriate engineering controls

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

### Individual protection measures, such as personal protective equipment

<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Hand protection</b>	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).
<b>Eye/face protection</b>	Tight sealing safety goggles.
<b>Skin and body protection</b>	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.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Environmental exposure controls</b>	Local authorities should be advised if significant spillages cannot be contained.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

<u>Property</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
<b>Appearance</b>			
Physical state	: Liquid		
Color	: beige		
Odor	: Urea		
<b>Odor threshold</b>	: No data available		
<b>pH</b>	: 7.5 - 8.5	CIPAC MT 75.3	solution (1%)
<b>Melting point / freezing point °C</b>	: ----		Not applicable
<b>Boiling point / boiling range °C</b>	: No data available		
<b>Flash point °C</b>	: > 79	CIPAC MT 12.2	Not flammable
<b>Evaporation rate</b>	: No data available		
<b>Flammability (solid, gas)</b>	: Not applicable		
<b>Upper/lower flammability or explosive limits</b>	: No data available		
<b>Vapor pressure kPa</b>	: ----		Not applicable
<b>Vapor density</b>	: No data available		
<b>Relative density</b>	: 1.13 - 1.23	CIPAC MT 3.3.2	201 °C
<b>Solubility(ies) mg/l</b>	: ----		Not applicable
<b>Partition coefficient Log Pow</b>	:		See Section 12 for additional Ecological Information
<b>Autoignition temperature °C</b>	: 560	EEC A.15	
<b>Decomposition temperature °C</b>	: No data available		
<b>Kinematic viscosity mm<sup>2</sup>/s 40 °C</b>	: 493	OECD 114	
<b>Explosive properties</b>	: Not an explosive		
<b>Oxidizing properties</b>	: No data available		
<b>Surface tension</b>	: ----		No data available
<b>Particle Size</b>	: Not applicable		

### Other information

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

## 10. Stability and reactivity

### Reactivity

**Reactivity** No information available.

Chemical stability

**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

Possibility of hazardous reactions

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

Conditions to avoid

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

Incompatible materials

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

Hazardous decomposition products

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

**11. Toxicological information**Information on toxicological effectsAcute toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
<b>Oral LD50 mg/kg</b>	: 5000	Rat	OECD 401	Maximum attainable concentration
<b>Dermal LD50 mg/kg</b>	: > 2000	Rabbit	OECD 402	
<b>Inhalation LC50 LC50</b>	: > 4.66	Rat	OECD 403	
<b>Skin corrosion/irritation</b>	: Non-irritating to the skin	Rabbit	OECD 404	
<b>Serious eye damage/eye irritation</b>	: Not irritating to eyes	Rabbit	OECD 405	
<b>Sensitization</b>	: Not a skin sensitizer	Guinea pig	OECD 406	

Chronic toxicity**Germ cell mutagenicity****Chemical name**

Linuron : Not classified

**Carcinogenicity****Chemical name**

Linuron : Suspected of causing cancer

**Reproductive toxicity****Chemical name**

Linuron : H360Df - May damage the unborn child. Suspected of damaging fertility

**STOT - Single Exposure****Chemical name**

Linuron : No data available

**STOT - Repeated Exposure****Chemical name**

Linuron : May cause damage to organs through prolonged or repeated exposure

**Aspiration hazard****Chemical name**

Linuron : Not available

## 12. Ecological information

**Ecotoxicity****Aquatic toxicity**

<b>Acute toxicity</b>	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Fish 96-hour LC50 mg/l	: 15.4	Oncorhynchus mykiss	OECD 203	
Crustacea 48-hour EC50 mg/l	: 15	Daphnia magna	OECD 202	
Algae 72-hour EC50 mg/l	: 0.065	S. subspicatus	OECD 201	
Other plants EC50 mg/l	: 0.12	Lemna minor	OECD 221	days 7

**Chronic aquatic toxicity**

<b>Fish NOEC mg/l</b>	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Fish NOEC mg/l	: No data available			
Crustacea NOEC mg/l	: No data available			
Algae NOEC mg/l	: No data available			
Other plants NOEC mg/l	: No data available			

**Terrestrial Toxicity****Birds Oral LD50 mg/kg****Chemical name**

Linuron : 314 Bobwhite quail

**Bees Oral LD50 µg/bee****Chemical name**

Linuron : > 112

**Abiotic Degradation****Water DT50 days****Chemical name**

Linuron : 9.9 EPA-FIFRA 162-4

**Soil DT50 days****Chemical name**

Linuron : 38 - 135 15-251 °C

**Biodegradation****Chemical name**

Linuron : No data available

**Log Pow****Chemical name**

<b>Linuron</b>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Linuron	: 3.0	EPA-FIFRA 63-11	

**Bioconcentration factor (BCF)****Chemical name**

Linuron : 38 0.95 mg/l

**Adsorption/Desorption****Chemical name**

<b>Linuron</b>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Linuron	: 743	OECD 106	KOC

### 13. Disposal considerations

#### Disposal methods

**Waste from residues/unused products** Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.

**Contaminated packaging** Improper disposal or reuse of this container may be dangerous and illegal.

### 14. Transport information

#### ADR

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

#### RID

14.1 UN number UN3082  
 14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Linuron)  
 14.3 Transport hazard class(es) 9  
 Labels 9  
 14.4 Packing group III  
 Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Linuron), 9, III  
 14.5 Environmental hazard Yes  
 14.6 Special Precautions for Users  
 Special Provisions 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. (Linuron)  
 14.3 Hazard Class 9  
 14.4 Packing group III  
 Description UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Linuron), 9, III, Marine pollutant  
 14.5 Marine pollutant  
 Environmental hazard P  
 Yes  
 14.6 Special Precautions for Users  
 Special Provisions 274, 335, 969  
 EmS-No F-A, S-F  
 IMDG Stowage and segregation Category A  
 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code No information available

#### IATA

14.1 UN number UN3082  
 14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Linuron, 1,2-Benzisothiazolin-3-one)



<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. (Linuron, 1,2-Benzisothiazolin-3-one), 9, III
<b>14.5 Environmental hazard</b>	Yes
<b>14.6 Special Precautions for Users</b>	
<b>Special Provisions</b>	A97, A158, A197
<b>ERG Code</b>	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

## 15. Regulatory information

### Safety, health and environmental regulations specific for the product in question

Registration Requirements: Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act 36 of 1947). Pesticide Handling, Storage and Disposal Safety: SANS10206: 2020. Safety Data Sheet and Occupational Exposure Limit Requirements: Regulations for Hazardous Chemical Agents – 2021 – SA Occupational Health and Safety Act. SANS11014:2010. Control of and handling of poisonous/hazardous and non-poisonous/non-hazardous substances/chemicals in workplaces: Hazardous Substances Act, 1973 (Act No.15 of 1973). Occupational Health and Safety Act No. 85 of 1993.

## 16. Other information

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

H302 - Harmful if swallowed  
H351 - Suspected of causing cancer  
H360 - May damage fertility or the unborn child  
H373 - May cause damage to organs through prolonged or repeated exposure  
H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects

<b>Date of preparation of the SDS</b>	No data available
<b>Revision date</b>	03-Oct-2022
<b>Revision Note</b>	Changes made to the last version are labeled with this sign ***.

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

IMDG	International Maritime Dangerous Goods (IMDG)
IATA	International Air Transport Association (IATA)
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road

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

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

### Abbreviations and acronyms

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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

### **The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

#### **Classification of the mixture**

H351 - Suspected of causing cancer  
H360 - May damage fertility or the unborn child  
H373 - May cause damage to organs through prolonged or repeated exposure  
H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects

#### **Classification procedure**

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

#### **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**