SAFETY DATA SHEET

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

Chrome

Revision date 28-Mar-2024 **Version** 2 **Supersedes Date:** 14-Feb-2024 **Product Code(s)** HRB01089-44

Print Date 28-Mar-2024 ADM.03002.H.1.A (AG-FDC1-400 SC) 9509367

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

1.1. Product identifier

Chrome

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 UK: National Chemical Emergency Centre:
Tel: 01856 407333 (24 hours, 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]

Skin sensitisation	Category 1 - (H317)
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 Chlorotoluron

Hazard pictograms

Signal word	Warning
Hazard statements	H317 - May cause an allergic skin reaction 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 P302 + P352 - IF ON SKIN: Wash with plenty of water and soap P501 - Dispose of contents/ container to an approved waste disposal plant
EU Specific Hazard Statements	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
Chlorotoluron	15545-48-9	239-592-2	616-105-00-5	22-28	Carc. 2 (H351) Repr. 2 (H361d) Aquatic Acute		M=10 M=1	No data available

					1 (H400) Aquatic Chronic 1 (H410)			
Flufenacet (ISO)	142459-58-3	604-290-5	613-164-00-9	5-9	Acute Tox. 4 (H302) Skin Sens. 1 (H317) STOT RE 2 (H373) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)		M=100	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
Poly(oxy-1,2-ethanediyl), .alpha.-[tris(1-phenylethyl)phenyl]-.omega.-hydroxy-	99734-09-5	-		2-4	Aquatic Chronic 3 (H412)			No data available
1,2-Benzisothiazolin-3-one	2634-33-5	220-120-9	613-088-00-6	< 0.036	Acute Tox. 4 (H302) Acute Tox. 2 (H330) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1A (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	Skin Sens. 1A :: C>=0.036%	inhalation: ATE = 0,21 mg/L (dusts or mists) oral: ATE = 450 mg/kg bw	01-2120761540-60-XXXX
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one	55965-84-9	-	613-167-00-5	< 0.002	Acute Tox. 3 (H301) Acute Tox. 2 (H310) Acute Tox. 2 (H330) Skin Corr. 1C (H314) Eye Dam. 1 (H318) Skin Sens. 1A (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) EUH071	Skin Corr. 1C; H314: C ≥ 0,6 % Skin Irrit. 2; H315: 0,06 % ≤ C < 0,6 % Eye Dam. 1; H318: C ≥ 0,6 % Eye Irrit. 2; H319: 0,06 % ≤ C < 0,6 % Skin Sens. 1A; H317: C ≥ 0,0015 %	M=100 M=100	No data available

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

General advice	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.
Inhalation	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a doctor.
Eye contact	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.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a doctor if necessary.
Ingestion	Rinse mouth. Drink plenty of water. If symptoms persist, call a doctor.
Self-protection of the first aider	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.

7.3. Specific end use(s)

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

Chemical name	United Kingdom
Propylene Glycol 57-55-6	TWA: 150 ppm TWA: 474 mg/m³ TWA: 10 mg/m³ STEL: 450 ppm STEL: 1422 mg/m³ STEL: 30 mg/m³
Sodium hydroxide 1310-73-2	STEL: 2 mg/m³

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
Appearance			
Physical state	: Liquid		
Colour	: Off-white		
Odour	: characteristic		
Odour threshold	: No data available		
pH	: 5.2-6.8	CIPAC MT 75.3	Undiluted
Melting point / freezing point °C	: No data available		
Boiling point / boiling range °C	: No data available		
Flash point °C	: >100		
Evaporation rate	: No data available		
Flammability (solid, gas)	: Not applicable		
Upper/lower flammability or explosive limits	: No data available		
Vapour pressure kPa	: No data available		
Vapour density	: No data available		
Relative density	: 1.082-1.182	EEC A.3	
Solubility(ies) mg/l	: No data available		
Partition coefficient Log Pow	:		See Section 12 for additional Ecological Information
Autoignition temperature °C	: 435	A.15 (EU)	
Decomposition temperature °C	: No data available		
Kinematic viscosity mm2/s 40 °C	: 75.8		
Surface tension	: 39.2		solution (20C, 2.25 %)
Particle Size	: Not applicable		

9.2. Other information

Bulk density g/ml : Not applicable

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 Thermal decomposition can lead to release of irritating and toxic gases and vapours.

SECTION 11: Toxicological information

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

Acute toxicity

		Values	Species	Method	Remarks
Oral LD50 mg/kg	:	No data available			
Dermal LD50 mg/kg	:	No data available			
Inhalation LC50 mg/l	:	No data available			
Skin corrosion/irritation	:	No data available			
Serious eye damage/eye irritation	:	No data available			
Sensitisation	:	Not a skin sensitiser	Mouse	OECD 429 LLNA	

Chronic toxicity

Germ cell mutagenicity
Chemical name

Chlorotoluron	:	Not classified
Flufenacet (ISO)	:	Not classified
Diflufenican	:	Not classified

Carcinogenicity .
Chemical name

Chlorotoluron	:	Suspected of causing cancer
Flufenacet (ISO)	:	Not Carcinogenic
Diflufenican	:	Not Carcinogenic

Reproductive toxicity .
Chemical name

Chlorotoluron	:	Suspected of damaging the unborn child
Flufenacet (ISO)	:	Not toxic for the reproductive system
Diflufenican	:	Not toxic for the reproductive system

STOT - Single Exposure
Chemical name

Chlorotoluron	:	No data available
Flufenacet (ISO)	:	No data available
Diflufenican	:	No data available

STOT - Repeated Exposure
Chemical name

Chlorotoluron	:	No data available
Flufenacet (ISO)	:	H373 - May cause damage to organs through prolonged or repeated exposure
Diflufenican	:	No data available

Aspiration hazard
Chemical name

Chlorotoluron	:	No data available
Flufenacet (ISO)	:	No data available
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

Acute toxicity		Values	Species	Method	Remarks
Fish 96-hour LC50 mg/l	:	>100	Oncorhynchus mykiss	OECD 203	Static
Crustacea 48-hour EC50 mg/l	:	>100	Daphnia magna	OECD 202	
Algae 72-hour EC50 mg/l	:	0.0126	P. subcapitata	OECD 201	
Other plants EC50 mg/l	:	0.0973	Lemna	OECD 221	

Chronic aquatic toxicity		Values	Species	Method	Remarks
Fish NOEC mg/l	:	No data available			No data available
Crustacea NOEC mg/l	:	No data available			No data available
Algae NOEC mg/l	:	No data available			No data available
Other plants NOEC mg/l	:	No data available			No data available

Terrestrial Toxicity
Birds Oral LD50 mg/kg
Chemical name

Chlorotoluron	:	272	Japanese quail	EPA-FIFRA 71-1
Flufenacet (ISO)	:	1608	Bobwhite quail	
Diflufenican	:	> 2150	Bobwhite quail	

Bees Oral LD50 µg/bee
Chemical name

Chlorotoluron	:	> 20		
Flufenacet (ISO)	:	> 170		
Diflufenican	:	> 100	Apis mellifera	EPPO 170

12.2. Persistence and degradability

Abiotic Degradation

Water DT50 days

Chemical name			
Chlorotoluron	: > 200		pH 7; 30 ◦ C
Flufenacet (ISO)	: No data available		
Diflufenican	: 1-5	BBA IV: 5-1	

Soil DT50 days

Chemical name		
Chlorotoluron	: 8.5 - 92.5	
Flufenacet (ISO)	: 10-54	
Diflufenican	: 128	EPA / SETAC

Biodegradation

Chemical name		
Chlorotoluron	: Not readily biodegradable	OECD 301 B
Flufenacet (ISO)	: No information available	
Diflufenican	: No information available	

12.3. Bioaccumulative potential

Partition Coefficient (n-octanol/water) Log Pow Chemical name	Values	Method	Remarks
Chlorotoluron	: 2.5	OECD 107	
Flufenacet (ISO)	: 3.2		
Diflufenican	: 4.2	OECD 117	

Bioconcentration factor (BCF)

Chemical name			
Chlorotoluron	:		No data available
Flufenacet (ISO)	: ----		No data available
Diflufenican	: 1276 - 1596	OECD 305	

12.4. Mobility in soil

Adsorption/Desorption Chemical name	Values	Method	Remarks
Chlorotoluron	: 108 - 384	OECD 106	KOC
Flufenacet (ISO)	: 202		KOC
Diflufenican	: 3417		KOC

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

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.

Other information Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

ADR

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

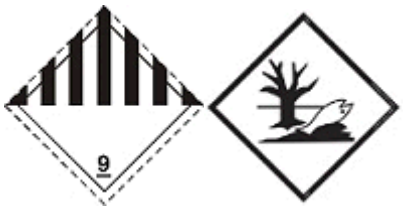
IMDG

14.1 UN number	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Chlorotoluron, Flufenacet (ISO))
14.3 Transport hazard class(es)	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Chlorotoluron, Flufenacet (ISO)), 9, III, Marine pollutant
14.5 Environmental hazard	Yes
14.6 Special Precautions for Users	
14.5 Marine pollutant	P
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. (Chlorotoluron, Flufenacet (ISO))
14.3 Transport hazard class(es)	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Chlorotoluron, Flufenacet (ISO)), 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
H301 - Toxic if swallowed
H302 - Harmful if swallowed
H310 - Fatal in contact with skin
H314 - Causes severe skin burns and eye damage
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage
H330 - Fatal if inhaled
H351 - Suspected of causing cancer
H361d - Suspected of damaging 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
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 28-Mar-2024

Reason for revision

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
H317 - May cause an allergic skin reaction	Classification based on the decision of the plant protection authority in UK.
H351 - Suspected of causing cancer	Classification based on Calculation method
H361d - Suspected of damaging the unborn child	Classification based on Calculation method
H400 - Very toxic to aquatic life	Classification based on test data
H410 - Very toxic to aquatic life with long lasting effects	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