



SAFETY DATA SHEET

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

Chronos 45 EC

Revision date 29-Mar-2023 Version 1.01 Supersedes Date: 15-Mar-2023

Product Code(s)

FNG56880-27

Print Date 29-Mar-2023

ADM.03250.F.1.A 800122

1. Identification

Product identifier

Chronos 45 EC

Other means of identification

Synonyms	Prochloraz 450 EC
Formulation type	EC
Registration Number(s)	L5589
Pure substance/mixture	Mixture

Recommended use of the chemical and restrictions on use

Recommended use	Fungicide; 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

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

Chronic aquatic toxicity	Category 1 - (H410)
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Label elements

Signal word	Warning
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Hazard pictograms**Hazard statements**

H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements

P101 - If medical advice is needed, have product container or label at hand
 P102 - Keep out of reach of children
 P103 - Read label before use
 P273 - Avoid release to the environment
 P391 - Collect spillage
 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**

Prochloraz 450 EC

Chemical name	CAS No	Weight-%	EC No	INTERNATIONAL GHS CLASSIFICATION	M-Factor
Prochloraz	67747-09-5	38-42	266-994-5	Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=1 M=10
Rosin, methyl ester	68186-14-1	15-20	269-035-9	Aquatic Chronic 3 (H412)	
Butyrolactone	96-48-0	3-6	202-509-5	STOT SE 3 (H336) Eye Dam. 1 (H318) Acute Tox. 4 (H302)	
butan-1-ol	71-36-3	3-6	200-751-6	Flam Liq. 3 (H226) Acute Tox. 4 (H302) STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) STOT SE 3 (H336)	

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 Chronos 45 EC 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

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 physician.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.
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 physician.
Ingestion	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 Dry chemical. Carbon dioxide (CO₂). Water spray. Alcohol resistant foam.

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 Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.

Flammable properties Combustible material

Explosive properties Not an explosive.

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 Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do not touch or walk through spilled material.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

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

7. Handling and storage

Preventive measures for safe handling

Advice on safe handling Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation.

Precautions for safe handling

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

8. Exposure controls/personal protection

Control parameters

Exposure guidelines

Chemical name	ACGIH TLV
butan-1-ol 71-36-3	TWA: 20 ppm

Appropriate engineering controls

Engineering controls Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

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

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).

Eye/face protection Tight sealing safety goggles.

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.

General hygiene considerations Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls 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>
Appearance			
Physical state	: Liquid		
Color	: clear amber		
Odor	: characteristic		
Odor threshold	: No data available		
pH	: 7 - 8	CIPAC MT 75.3	solution (1%)
Melting point / freezing point °C	: No data available		
Boiling point / boiling range °C	: No data available		
Flash point °C	: 62 - 82	EEC A.9	
Evaporation rate	: No data available		
Flammability (solid, gas)	: Not applicable		
Upper/lower flammability or explosive limits	: No data available		
Vapor pressure kPa	: No data available		
Vapor density	: No data available		
Relative density	: 1.130 - 1.135	OECD 109	
Solubility(ies) mg/l	: No data available		
Partition coefficient Log Pow	:		See Section 12 for additional Ecological Information
Autoignition temperature °C	: 350	EEC A.15	
Decomposition temperature °C	: No data available		
Kinematic viscosity mm ² /s 40 °C	: 311	OECD 114	20°C
Explosive properties	: Not an explosive		
Oxidizing properties	: Not oxidizing		
Surface tension	: 39	OECD 115	
Particle Size	: Not applicable		

Other information

Bulk density g/ml : Not applicable

10. Stability and reactivityReactivity

Reactivity No information available.

Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

Conditions to avoid

Conditions to avoid Heat, flames and sparks.

Incompatible materials

Incompatible materials None known based on information supplied.

Hazardous decomposition products

Hazardous decomposition products None known based on information supplied.

11. Toxicological informationInformation on toxicological effectsAcute toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Oral LD50 mg/kg	: > 2000	Rat	OECD 401	Maximum attainable concentration
Dermal LD50 mg/kg	: > 2000	Rat	OECD 402	
Inhalation LC50 LC50	: > 4.99	Rat	OECD 403	
Skin corrosion/irritation	: Non-irritating to the skin	Rabbit	OECD 404	
Serious eye damage/eye irritation	: Not irritating to eyes	Rabbit	OECD 405	
Sensitization	: Not a skin sensitizer	Guinea pig	OECD 406	

Chronic toxicityGerm cell mutagenicityChemical name
Prochloraz : Not classifiedCarcinogenicityChemical name
Prochloraz : Not CarcinogenicReproductive toxicity

Chemical name

Prochloraz : Not toxic for the reproductive system

STOT - Single Exposure**Chemical name**

Prochloraz : Not classified

STOT - Repeated Exposure**Chemical name**

Prochloraz : Not classified

Aspiration hazard**Chemical name**

Prochloraz : Not classified

12. Ecological information

Ecotoxicity**Aquatic toxicity**

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Acute toxicity				
Fish 96-hour LC50 mg/l	: 3.05	Oncorhynchus mykiss	OECD 203	
Crustacea 48-hour EC50 mg/l	: 4.0	Daphnia magna	OECD 202	
Algae 72-hour EC50 mg/l	: 1.42	Selenastrum capricornutum	OECD 201	
Other plants EC50 mg/l	: No data available			

Chronic aquatic toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Fish NOEC mg/l	: No data available			
Crustacea NOEC mg/l	: 0.075	Daphnia magna	OECD 202	21d
Algae NOEC mg/l	: 0.301	P.subcapitata	OECD 201	
Other plants NOEC mg/l	: No data available			

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

Prochloraz : 624 Bobwhite quail US EPA 71-1

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

Prochloraz : 14.89 Apis mellifera WD 7/3, MAFF UK contact

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

Prochloraz : 3.5

Soil DT50 days**Chemical name**

Prochloraz : 223.62

Biodegradation**Chemical name**

Prochloraz : Not readily biodegradable OECD 301 D

Log Pow**Chemical name**

	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Prochloraz	: 4.3	EEC A.8	

Bioconcentration factor (BCF)

Chemical name

Prochloraz : 150-247

Adsorption/Desorption

Chemical name

Prochloraz : 1222-8654

MethodRemarks

KOC

13. Disposal considerationsDisposal 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 informationADR

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

RID

14.1 UN number	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Prochloraz)
14.3 Transport hazard class(es)	9
Labels	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Prochloraz), 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. (Prochloraz)
14.3 Hazard Class	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Prochloraz), 9, III, Marine pollutant
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
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. (Prochloraz)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Prochloraz), 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

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

H226 - Flammable liquid and vapor
H302 - Harmful if swallowed
H315 - Causes skin irritation
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Date of preparation of the SDS	No data available
Revision date	29-Mar-2023
Revision Note	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

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**

H410 - Very toxic to aquatic life with long lasting effects

Classification procedure

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