




Safety Data Sheet

PANGOLIN L 10851 (Act 36 of 1947)

Date of issue: 31/07/2020

1) PRODUCT AND COMPANY IDENTIFICATION	
Product name:	PANGOLIN
Other means of identification:	Atrazine 300 g/L, Sulcotrione: 125 g/L SC
Recommended use:	Crop protection product, herbicide.
Restrictions on use:	For use as an Agricultural remedy only.
UN No:	3082
Distributed by:	MERIDIAN AGRITECH P O BOX 436 MODDERFONTEIN TEL 011 8228509 FAX 0866901386 MOBILE: 0834006056 www.agritech.co.za
Emergency Number:	POISON CENTRE (UNITAS HOSPITAL) 012 664 1100 TYGERBERG: 021 931 6129 RED CROSS: 021 689 5227 RAPID SPILL RESPONSE 0800 775 3305 GRIFFON POISON CENTRE: 082 446 8946
Chemical Name:	Atrazine: 6-chloro-N2-ethyl-N4-isopropyl-1,3,5-triazine-2,4-diamine Sulcotrione: 2-(2-chloro-4-mesylbenzoyl)cyclohexane-1,3-dione
2) Classification of the substance / mixture:	
Classification of the product is based on the co-formulants listed in section 3.	<p>Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.</p> <p>Skin sensitization: Category 1A (H317) Specific target organ toxicity – single exposure: Category 2 H373 (kidneys): Acute aquatic toxicity: Category 1(H400): Very toxic to aquatic life. Chronic aquatic toxicity: Category 1(H410) Very toxic to aquatic life with long lasting effects.</p> <p>According to Directive 67/548/EEC or 1999/45/EC</p> <p>R43 R48/22 Xn Repr. Cat. 3. R63 R50/53</p> <p>Full text of H, R and S-phrases: see section 15.</p>
Label elements:	<p>Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.</p> <p>Hazardous components which must be listed on the label: Atrazine, Sulcotrione</p>

	<div><div> Exclamation mark</div><div> Environment</div><div> Health hazard</div></div> <p>Signal word: Warning</p> <p>Hazard statement(S): H317: May cause an allergic skin reaction 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.</p> <p>Precautionary statement(S): P260: Do not breathe (dust/fume/gas/mist/vapors/spray) P272: Contaminated work clothing should not be allowed out of the workplace. P273: Avoid release to the environment P280: Wear protective gloves / protective clothing / eye protection P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P314: Get medical attention/advice if you feel unwell P333+313: If skin irritation or rash occurs, seek medical advice / attention. P362+364: Take off contaminated clothing and wash it before reuse. P391: Collect spillage</p>																		
Health effects: eyes:	Moderate irritant to eyes, causing redness, pain and blurred vision.																		
Health effects: skin:	May be irritant to skin and cause redness and discomfort. May be a strong skin sensitizer.																		
Health effects: ingestion	Low oral toxicity. Ingestion of large quantities may cause nausea, vomiting, abdominal distress, diarrhea and muscle spasms.																		
Health effects: inhalation	Unlikely to cause harmful effects under normal conditions of handling and use, but may cause sore throat, headache, nausea, abdominal distress and / or increased respiration if large quantities are inhaled. May cause irritation to nose and / or throat.																		
3) COMPOSITION / INFORMATION ON INGREDIENTS:																			
Mixture: preparation based on Atrazine 300 / Sulcotrione 125 g/L																			
<table><tr><th>Chemical name</th><th>% composition</th><th>CAS No.</th><th>EC No.</th><th>Classification according to Regulation EC 1272/2008 (CLP)</th><th>Classification according to Directive 67/548/EEC</th></tr><tr><td>Sulcotrione</td><td>12.5</td><td>99105-77-8</td><td>-</td><td>Skin Sens, 1A: H317 STOT RE 2: H373 (Kidneys) Aquatic Acute 1: H400 Aquatic Chronic 1: H410 Repr. 2: H361d</td><td>R43 R48/22 Xn Repr. Cat. 3. R63 R50/53</td></tr><tr><td>Atrazine</td><td>30.0</td><td>1912-24-9</td><td>217-617-8</td><td>Skin Sens, 1A: H317 STOT RE 2: H373 (Kidneys) Aquatic Acute 1: H400 Aquatic Chronic 1: H410</td><td>-</td></tr></table>	Chemical name	% composition	CAS No.	EC No.	Classification according to Regulation EC 1272/2008 (CLP)	Classification according to Directive 67/548/EEC	Sulcotrione	12.5	99105-77-8	-	Skin Sens, 1A: H317 STOT RE 2: H373 (Kidneys) Aquatic Acute 1: H400 Aquatic Chronic 1: H410 Repr. 2: H361d	R43 R48/22 Xn Repr. Cat. 3. R63 R50/53	Atrazine	30.0	1912-24-9	217-617-8	Skin Sens, 1A: H317 STOT RE 2: H373 (Kidneys) Aquatic Acute 1: H400 Aquatic Chronic 1: H410	-	
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Full text of symbols, R-phrases and S-phrases: see section 15.																			

4) FIRST AID MEASURES:	
Inhalation:	<p>The acute toxicity of these herbicides is very low, and no adverse health effects from exposure to this combination of herbicides have been reported. Symptoms of poisoning include: abdominal pain, diarrhoea and vomiting, eye irritation, irritation of mucous membranes and adverse skin reactions.</p> <p>Remove patient to fresh air. Loosen clothing around neck. Lie down and keep warm and at rest. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Maintain the airway and administer oxygen if required. Treat symptomatically and supportively.</p> <p>Seek medical attention if irritation develops and persists.</p>
Skin contact:	<p>Remove all contaminated clothing, shoes and leather goods immediately. Gently wipe off any excess chemical. Wash skin thoroughly and gently with water and soap until no evidence of chemical remains (approximately 15 – 20 minutes). Do not rub the skin. Seek medical attention if irritation develops and persists. Persons who become sensitized may require specialized medical management with anti-inflammatory agents.</p>
Eye contact:	<p>In case of eye contact, immediately flush the eyes with clean, gently flowing clean water for at least 20 minutes, while holding the eyelid(s) open. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing the eye. Seek medical attention if irritation develops and persists.</p>
Ingestion	<p>Keep the patient at rest and in the half up-right position. Give the patient plenty of water if they are alert and able. Treat symptomatically and supportively. Do not induce vomiting. If vomiting occurs, ensure to prevent the vomitus from being inhaled. For advice, contact the National Poisons Centre. Seek medical assistance immediately</p>
Most important symptoms and effects, acute and delayed:	<p>Symptoms of poisoning include: abdominal pain, diarrhoea and vomiting, eye irritation, irritation of mucous membranes and adverse skin reactions.</p>
Indication of immediate medical attention and special treatment needed: Advice to physician	<p>No specific antidote is available. Treat symptomatically and supportively. If large amounts have been ingested, perform gastric lavage and administer activated charcoal. If the product is aspirated into the lungs during ingestion or vomiting, mild to severe pulmonary injury may be caused.</p>
5) FIRE-FIGHTING MEASURES:	
Suitable extinguishing Media:	<p>Small fires: Foam, carbon dioxide, dry powder or halon extinguishing agents</p>
Unsuitable extinguishing media:	<p>Do not use high volume water jet, due to contamination risk.</p>
Fire Fighting:	<p>Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.</p> <p>Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal. Do not scatter the material. Avoid pollution of waterways.</p>

	UNUSUAL FIRE OR EXPLOSION HAZARDS: Generating poisonous and corrosive fumes containing carbon monoxide, nitrogen oxides and sulfur.			
Protective clothing:	Full protective clothing and self-contained breathing apparatus			
6) ACCIDENTAL RELEASE MEASURES:				
Personal precautions:	Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. Wash contaminated clothing before re-use.			
Occupational spill:	Wear protective clothing. Clear area of unprotected personnel. Contain and absorb liquid spills with inert material, remove by scoop or vacuum. Use approved industrial vacuum cleaner for removal and place in waste containers. Wash area with water and detergent and absorb with further inert material. Heavily contaminated soil layers have to be dug out down to clean soil. If spill does enter waterways contact the local authority. Spilled product cannot be re-used and must be disposed of by incineration or disposal in a chemical waste disposal facility. If containers cannot be recycled, they should be disposed of together with the waste chemical. Generating poisonous and corrosive fumes.			
7) HANDLING & STORAGE:				
Handling:	Use good personal hygiene. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke. Wash contaminated clothing before re-use. APPROVED HANDLER: This product must be under the control of an approved handler when applied in a wide dispersive manner; or used by a commercial contractor. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Any water used to clean equipment must be disposed of correctly to avoid contamination.			
Storage:	Store in the original container tightly closed and in a locked, dry, cool, well-ventilated area away from foodstuffs, fertilisers, seeds, drink, pharmaceuticals or cosmetics. Store in compliance with local regulations. Protect from excessive heat and cold. Keep away from children or uninformed persons. Keep away from combustible material. No smoking. Keep away from heat and sources of ignition. Keep away from direct sunlight. Protect from freezing.			
8) EXPOSURE CONTROL / PERSONAL PROTECTION:				
It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.				
Components with workplace control parameters				
		COMPONENT	EXPOSURE LIMITS (S)	TYPE OF EXPOSURE LIMIT
		SULCOTRIONE	0.4 mg/m3 (8 hr)	TWA
		ATRAZINE	5.0 mg/m3 (8 hr)	TWA

<u>PERSONAL PROTECTIVE EQUIPMENT:</u>	
Clothing:	Consult supplier to confirm that the equipment is suitable. Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance. Respiratory protection: Respirator with filter for organic vapour.
Gloves:	Employee must wear appropriate chemical-resistant gloves to prevent contact with this substance
Eye protection:	The use of safety goggles with side shields is recommended. Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.
Emergency eye wash:	
9) PHYSICAL & CHEMICAL PROPERTIES:	
Form:	Liquid
Colour:	Cream white – Tan liquid
Odour:	Characteristic odour
Odour threshold	No data available
Solubility:	Suspends in water
pH:	3 – 5
Melting point / Freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point:	Not flammable
Evaporation rate:	No data available
Flammability (solid, gas)	Non-flammable
Upper/ lower flammability or explosive limits:	No hazard is expected as long as the product is used appropriately and in accordance with the intended use.
Vapour pressure:	No data available
Vapour density:	Approximately 10.06 g/L
Relative density:	No data available
Solubility(ies)	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature:	No data available
Viscosity:	No data available
10) STABILITY & REACTIVITY:	
Reactivity:	<p>No hazardous reactions known. Hazardous polymerisation does not occur. Combustion or thermal decomposition will evolve toxic and irritating vapours of chlorine and nitrous oxides. Spray solutions containing this product should be mixed or applied using stainless steel, aluminium, fiberglass or plastic-lined containers. Compatible with most herbicides at normal rates, but flocculation may occur.</p> <p>Relatively stable in neutral, weakly acids and alkaline media, but rapidly hydrolyzed to the hydroxy derivatives in strong acids and alkaline and at 70° C neutral media.</p> <p>When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture. Avoid strong basic, acidic or oxidising materials.</p> <p>None under normal conditions of storage and of use. When heated to decomposition, irritant or dangerous fumes may be emitted.</p>
Chemical stability:	
Hazardous decomposition product(s):	
Conditions to avoid:	
Incompatible materials:	

	<p>This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed. Keep containers and surrounding areas well ventilated. Keep away from sources of sparks or ignition. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Acids and bases.</p>
11) TOXICOLOGICAL INFORMATION:	
<p>Active ingredient:</p> <p>Acute Oral : LD50: > 3 000 mg/kg, rat. Acute Dermal : LD50: > 3 000 mg/kg, rabbit. Acute Inhalation : Atrazine technical: > 5.8 mg/ L, (air) Sulcotrione technical: > 1.6 mg/ L, (air)</p> <p>Aspiration toxicity: N/A Skin irritation: Mild irritant, may be a strong skin sensitizer Eye irritation : Moderate irritant. Sensitization : Guinea pig: May be a strong sensitizer Mutagenicity: The statement has been derived from the properties of the active ingredients. Tests revealed no mutagenic or genotoxic potential. Carcinogenicity: The statement has been derived from the properties of the actives. Atrazine did not cause tumours in mice. However, mammary tumours were observed in rats after lifetime administration of high doses of atrazine. Thus, available data regarding atrazine's carcinogenic potential are inconclusive. Reproductive toxicity: The statement has been derived from the properties of the actives. Dietary doses of atrazine given to rats on days 3, 6 and 9 of gestation up to about 50 mg/kg/day caused no adverse reproductive effects. Teratogenicity: N/A Repeated dose toxicity: N/A</p> <p>ADI: Atrazine: 0.005 mg/kg b.w Sulcotrione: 0.005 mg/kg b.w</p>	
12) ECOLOGICAL INFORMATION:	
<p>Bees : Not toxic to bees Birds : Practically non-toxic to birds. Atrazine: Acute oral LD50 varies from 940 mg/kg for bobwhite quail to >2000 mg/kg for mallard ducks and 4237 mg/kg for adult Japanese quail. Dietary LC50 (8 d) for Japanese quail (chicks) >5000, (adults) >1000 mg/kg. Sulcotrione: Acute oral LD50 for bobwhite quail >2111, mallard ducks >1350 mg/kg b.w. Dietary LC50 for bobwhite quail and mallard ducks >5620 mg/kg diet.</p> <p>Fish : Moderately to very toxic to fish Atrazine: LC50 (96 h) for rainbow trout 4.5–11.0, bluegill sunfish 16, carp 76, catfish 7.6, guppies 4.3 mg/l. Sulcotrione: LC50 (96 h) for rainbow trout 227, mirror carp 240 mg/l.</p> <p>Daphnia : Moderately to very toxic to Daphnia Atrazine: LC50 (48 h) 6.9 mg/l. Sulcotrione: EC50 (48 h) >848 mg/l.</p> <p>Algae : Atrazine: EC50 (72 h) for <i>Scenedesmus subspicatus</i> 0.043 mg/l, (96 h) for <i>Selenastrum capricornutum</i> 0.13 mg/l. Sulcotrione: EC50 (96 h) for <i>Selenastrum capricornutum</i> 3.5 mg/l. ErC50 (72 h) for <i>Anabaena flos-aquae</i> 54 mg/l.</p> <p>Worms : Atrazine: LC50 (14 d) for <i>Eisenia foetida</i> 78 mg/kg soil. Sulcotrione: LC50 (14 d) for <i>Eisenia foetida</i> >1000 mg/kg soil.</p> <p>Soil micro-organisms: NA</p> <p>Other: Atrazine: Long-term studies in aquatic ecosystems indicate no permanent damage up to 0.020 mg/L. This product is considered a marine pollutant.</p> <p>Persistence and degradability: <u>ATRAZINE:</u></p> <p>Soil:</p>	

Atrazine is highly persistent in soil. Chemical hydrolysis, followed by degradation by soil micro-organisms, accounts for most of the breakdown of atrazine in soil. The addition of organic material increases the rate of hydrolysis. Atrazine can persist for longer than 12 months under dry or cold conditions. Moderately to highly mobile in soils with low clay or organic matter content. It does not absorb strongly to soil particles and thus has a lengthy half-life of 60 - >100 days. Despite its moderate solubility in water, atrazine has a high potential for groundwater contamination.

Water:

In water, atrazine is chemically hydrolysed, followed by biodegradation. Bioconcentration and volatilization of atrazine are not environmentally important.

Plants:

In tolerant plants, atrazine is readily metabolized to hydroxyatrazine and amino acid conjugates, with further decomposition. In sensitive plants, unaltered atrazine accumulates. This leads to chlorosis and death. Water GV: 2 µg/L.

SULCOTRIONE:

Sulcotrione is rapidly degraded in soil: DT50 of 15 – 74 days under laboratory conditions and 1 – 11 days under field conditions. The major metabolite is 2-chloro-4-methylsulfonylbenzoic acid KOC 44 (high pH, sandy clay loam) to 940 (low pH, sand). No adverse effects on soil micro-organisms.

Bioaccumulation: Bioconcentration factor (BCF) N/A.

Biodegradability: N/A

Results of PBT and vPvB assessment:

N/A

Other adverse effects:

Marine pollutant

13) DISPOSAL CONSIDERATIONS:

Waste Disposal:

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be re-used or re-processed. Do not contaminate ponds, waterways or ditches with any chemical or used container. Do not dispose of waste into the sewer. Where possible, recycling is preferable to disposal or incineration. If recycling is not practicable, dispose of in accordance with local and national regulations. Do not contaminate water, food or feed by disposal.

Container Disposal: Refer to the product label for instructions.

Invert the empty container over the spraying or mixing tank and allow it to drain for at least thirty seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to at least 30% of the volume of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dump site. Prevent contamination of food, feedstuffs, drinking water and eating utensils. Comply with local legislation applying to waste disposal.

14) TRANSPORTATION INFORMATION:

UN NUMBER: 3082

Road Transport ADR/ RID:

Class: 9

Packaging group: III

Proper shipping name: Environmentally hazardous substance, liquid, N.O.S. (Atrazine, Sulcotrione)

Environmental hazards: Environmentally hazardous

Special precautions for user: None known.

Maritime Transport IMDG / IMO:

Class: 9

Packaging group: III

Proper shipping name: Environmentally hazardous substance, liquid, N.O.S. (Atrazine, Sulcotrione)

Environmental hazards: Environmentally hazardous

Special precautions for user: None known.
MARINE POLLUTANT

Air (ICAO / IATA):

Class: 9

Packaging group: III

Proper shipping name: Environmentally hazardous substance, liquid, N.O.S. (Atrazine, Sulcotrione)

Environmental hazards: Environmentally hazardous

Special precautions for user: None known.

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC code): NA

Considered a marine pollutant.

15) REGULATORY INFORMATION:

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

To avoid risks to man and the environment, comply with all instructions for use.

Advice on handling of the product can be found in sections 7 and 8 of this safety data sheet.

Labelling according to EC directives:

Hazardous components which must be listed on the label: Sulcotrione, Atrazine

Symbol(s):

Xi : Irritant

N : Dangerous for the environment.

R-phrases(S):

R22: Harmful if swallowed.

R 36/38: Irritating to eyes and skin

R43: May cause sensitisation by skin contact.

R48: Danger of serious damage to health by prolonged exposure.

R50/53: Very toxic to aquatic organisms, may cause long – term adverse effects in the aquatic environment.

S-phrases(S):

S1/2: Keep locked up and out of reach of children.

S3/79: Keep container tightly closed in a cool, well-ventilated place.

S13: Keep away from food, drink and animal feeding stuffs.

S15: Keep away from heat.

S20/21: When using, do not eat drink or smoke.

S24/25: Avoid contact with skin and eyes.

S26 : In case of contact with eyes, rinse immediately with plenty of water.

S29 : After contact with skin wash immediately with water.

S35 : This material and its container must be disposed of in a safe way.

S36/37/39 : Wear suitable protective clothing, gloves and eye / face protection.

S45 : In case of an accident or if you feel unwell, seek medical advice.

S57: Use appropriate containment to avoid environmental contamination.

S60 : This material and its container must be disposed of as hazardous waste.

S61: Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Precautionary statement (S):

P260: Do not breathe (dust/fume/gas/mist/vapors/spray

P272: Contaminated work clothing should not be allowed out of the workplace.

P273: Avoid release to the environment

P280: Wear protective gloves / protective clothing / eye protection

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

P314: Get medical attention/advice if you feel unwell

P333+313: If skin irritation or rash occurs, seek medical advice / attention.

P362+364: Take off contaminated clothing and wash it before reuse.

P391: Collect spillage

16) OTHER INFORMATION:

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.

It is the responsibility of persons in receipt of this SDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with this product. If the recipient subsequently produces formulation(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this SDS to their own SDS. The information contained herein is provided in good faith but makes no representation as to its comprehensiveness or accuracy. A properly trained person using this product intends this document only as a guide to the appropriate handling of the material. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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