



Solo

Safety Data Sheet

according to the GHS Classification and labelling of chemicals – SANS 10234 and the Regulations for Hazardous agents 2021.
Issue date: 12/07/2023 Date of revision: 12/07/2026 Version: 2.0

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

1.1. Product identifier

Product form : Mixture
Name : Solo
Trade name : Solo
Product code : UPL_L9321

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : For agricultural, industrial and professional use only
Use of the substance/mixture : A systemic fungicide as a suspension concentrate for the control of diseases as listed on barley, wheat, groundnuts and maize.
Main use category : Fungicide

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

UPL South Africa (Pty) Ltd.
Sunbury Office Park (off Douglas Saunders Drive) 7
La Lucia Ridge
P.O. Box 1726, Mount Edgecombe, 4300
4019 Durban - South Africa
T +27 31 514 5600
www.upl-ltd.com/za

1.4. Emergency telephone number

Emergency number : Griffon Poison Information Centre: 082 4468946,
Poisons Information Helpline: 0861 555 777,
In case of Spillage: Spill Tech: 086 100 0366 / 083 253 6618

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to UN GHS Purple Book (Rev. 9, 2021)

Acute toxicity (oral), Category 5	H303
Specific target organ toxicity – Repeated exposure, Category 2	H373
Germ cell mutagenicity, Category 1B	H340
Reproductive toxicity, Category 1B	H360
Carcinogenicity, Category 2	H351
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Hazardous to the aquatic environment — Chronic Hazard, Category 1	H410

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to UN GHS Classification (Purple Book, Rev.9, 2021)

Hazard pictograms :



GHS08



GHS09

Signal word : Danger
Hazardous ingredients : Carbendazim; Flusilazole; Ethoxylated lauryl alcohol; Siloxane; Glycol

Solo

Safety Data Sheet

according to the GHS Classification and labelling of chemicals – SANS 10234 and the Regulations for Hazardous agents 2021

Hazard statements

: H303 – May be harmful if swallowed.
H373 - May cause damage to kidneys via prolonged and repeated oral exposure
H340 - May cause genetic defects.
H351 - Suspected of causing cancer.
H360 - May damage fertility or unborn child
H400 - Very toxic to aquatic life.
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 carefully and follow all instructions.
P203 - Obtain, read and follow all safety instructions before use.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+ P317 - IF SWALLOWED: Get medical help.
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 hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to UN GHS Purple Book, Rev.9, 2021 .
flusilazole	(CAS-No.) 85509-19-9	10 - 20	Acute Tox. 4 (Oral), H302 Acute Tox. 5 (Dermal), H313 Acute Tox. 4 (Inhalation), H332 Carc. 2, H351 Repr. 1B, H361 Aquatic Chronic 2, H411
carbendazim (ISO)	(CAS-No.) 10605-21-7 (EC-No.) 234-232-0	10 - 20	Acute Tox. 5 (Dermal), H313 Skin Sens. 1, H317 Muta. 1B, H340 Repr. 1B, H360FD Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
monoethylene glycol	(CAS-No.) 107-21-1 (EC-No.) 203-473-3	2.5 - 10	Acute Tox. 5 (Dermal), H313 Acute Tox. 4 (Inhalation:dust,mist), H332 STOT RE 2, H373
Ethoxylated lauryl alcohol	(CAS-No.) 68551-12-2	2.5 - 10	Skin irrit. 2, H315 Eye irrit. 2, H319 Aquatic Acute 1, H400
Siloxane	(CAS-No.) 63148-57-2	2.5 - 10	Eye irrit. 2, H319

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

Solo

Safety Data Sheet

according to the GHS Classification and labelling of chemicals – SANS 10234 and the Regulations for Hazardous agents 2021

First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/effects	: May cause genetic defects. May damage fertility or unborn child. Suspected of causing cancer
------------------	--

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
----------------------	-----------------------------------

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
-------------------------	--

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so.
Hygiene measures	: Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.
Incompatible products	: Strong bases. Strong acids.
Incompatible materials	: Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

monoethylene glycol (107-21-1)

EU - Occupational Exposure Limits

Local name	Ethylene glycol
IOELV TWA (mg/m ³)	52 mg/m ³
IOELV TWA (ppm)	20 ppm
IOELV STEL (mg/m ³)	104 mg/m ³
IOELV STEL (ppm)	40 ppm

Solo

Safety Data Sheet

according to the GHS Classification and labelling of chemicals – SANS 10234 and the Regulations for Hazardous agents 2021

monoethylene glycol (107-21-1)

Notes	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC

8.2. Exposure controls

Appropriate engineering controls:

Good general ventilation should be sufficient to keep the airborne concentrations as low as possible (typically 10 air changes per hour). Ventilation rates should match operational conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below the legal exposure limits. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure and should be easily accessible.

General safety and hygiene measures:

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.

Avoid any unnecessary exposure. Wash hands thoroughly after handling the product, before eating, smoking, and using the lavatory, and at the end of the working period.

Skin and Hand protection:

Work clothes including coveralls, shoes, and socks are required to prevent skin contact and contamination of personal clothing. Keep working clothes separately.

To prevent contact with the product, wear appropriate elbow length chemical-resistant protective gloves during handling (e.g., butyl rubber, nitrile rubber, etc.). Consider the glove penetration time - information on glove penetration time is available from the manufacturer of the glove. Wash gloves after use. The gloves should be replaced immediately in case of damage or signs of wear. It is recommended to use preventative skin protection (skin cream).

Eye and face protection:

Safety goggles together with a face shield recommended when a full face mask respirator is not used.

Respiratory protection:

Respiratory protection is required when ventilation is inadequate, when discomfort is experienced, or in case of emergencies; a reusable half mask or full face mask with gas/ vapour filter is recommended.

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment. Keep container closed when not in use.

Other information:

None.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: White to off-white.
Odour	: Chemical odour.
Odour threshold	: No data available
pH	: 5
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.

Solo

Safety Data Sheet

according to the GHS Classification and labelling of chemicals – SANS 10234 and the Regulations for Hazardous agents 2021

Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.2. Chemical stability

Considered stable in unopened original packages and under normal dry storage conditions

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: May be harmful if swallowed
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Solo	
ATE oral calculated	3719 mg/kg

carbendazim (ISO) (10605-21-7)

LD50 oral rat	6400 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 5 mg/l

flusilazole (85509-19-9)

LD50 oral rat	450 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	2.7 mg/l/4h

monoethylene glycol (107-21-1)

LD50 oral rat	7712 mg/kg
LD50 dermal	3500 mg/kg (mouse)
LC50 inhalation rat (mg/l)	2.5 mg/l (Aerosol - 6 h)

Skin corrosion/irritation	: Not classified pH: 5 (≤ 7)
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Not classified pH: 5 (≤ 7)
Additional information	: Based on available data, the classification criteria are not met

Solo

Safety Data Sheet

according to the GHS Classification and labelling of chemicals – SANS 10234 and the Regulations for Hazardous agents 2021

Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: Suspected of causing cancer
Reproductive toxicity	: May damage fertility or unborn child
STOT-single exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-repeated exposure	: May cause damage to kidneys via prolonged and repeated oral exposure
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water	: Very toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	: Very toxic to aquatic life
Hazardous to the aquatic environment, long-term (chronic)	: Very toxic to aquatic life with long lasting effects.

Solo	
ATE fish calculated	0,827 mg/l
ATE Daphnia calculated	0,254 mg/l
ATE (algae) calculated	3.11 mg/l

carbendazim (ISO) (10605-21-7)

LC50 fish	0.61 mg/l (96h Carp)
LC50 fish	0.83 mg/l (96h Rainbow trout)
EC50 Daphnia	0,13-0,22 mg/l (48h Daphnia magna)
ErC50 (algae)	>1.3 mg/l (72h Selenastrum capricornutum)

flusilazole (85509-19-9)

LC50 fish	1.2 mg/l (96h Rainbow trout)
LC50 fish	1.7 mg/l (96h bluegill sunfish)
EC50 Daphnia	3.4 mg/l (48h)

Ethoxylated lauryl alcohol (68551-12-2)

LC50 fish	1.2 mg/l
EC50 Algae	0.41 mg/l

monoethylene glycol (107-21-1)

LC50 fish	> 72860 mg/l
EC50 Algae	10940 mg/l

12.2. Persistence and degradability

Solo	
Persistence and degradability	May cause long-term adverse effects in the environment.

carbendazim (ISO) (10605-21-7)

Persistence and degradability	not persistent.
-------------------------------	-----------------

Solo

Safety Data Sheet

according to the GHS Classification and labelling of chemicals – SANS 10234 and the Regulations for Hazardous agents 2021

flusilazole (85509-19-9)

Persistence and degradability Not established.

12.3. Bioaccumulative potential

Solo

Bioaccumulative potential Not established.

carbendazim (ISO) (10605-21-7)

Log Pow 1.5 (pH 5-9)

flusilazole (85509-19-9)

Bioaccumulative potential Not established.

monoethylene glycol (107-21-1)

Log Pow -1.36 (25 °C)

12.4. Mobility in soil

carbendazim (ISO) (10605-21-7)

Surface tension Not applicable

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA
14.1. UN number		
UN 3082	UN 3082	UN 3082
14.2. UN proper shipping name		
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	Environmentally hazardous substance, liquid, n.o.s.
Transport document description		
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, (-)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s., 9, III
14.3. Transport hazard class(es)		
9	9	9
		
14.4. Packing group		
III	III	III

Solo

Safety Data Sheet

according to the GHS Classification and labelling of chemicals – SANS 10234 and the Regulations for Hazardous agents 2021

14.5. Environmental hazards

Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
-------------------------------------	---	-------------------------------------

No supplementary information available

14.6. Special precautions for user

Overland transport

Hazard identification number (Kemler No.) : 90

Orange plates :



14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

Regulatory Information:

Relevant regulatory information regarding authorization, Safety Data Sheets, Occupational Exposure Limits, Hazardous Substances, Dangerous Goods Transport and Waste South Africa: Occupational Health and Safety Act 1993. Regulations for Hazardous Chemical Agents - 2021. Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act 36 of 1947). Hazardous Substances Act, 1973 (Act No.15 of 1973). Regulations for Hazardous Chemical Agents – 2021. SANS11014:2010. Safety Data Sheet for Chemical Products – Content and Order of Sections. SANS10206: 2020. The Handling, Storage and Disposal of Pesticides. National Road Traffic Act, 1996 (Act No. 93 of 1996). SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes. National Environmental Management: waste Act 59 of 2008 .

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Data sources : ECHA, Pesticide manual

Other information : None.

Full text of H- statements:	
Acute Tox. 5 (Oral)	Acute toxicity (oral), Category 5
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Carc. 2	Carcinogenicity, Category 2
Muta. 1B	Germ cell mutagenicity, Category 1B
Repr. 1B	Reproductive toxicity, Category 1B
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H303	May be harmful if swallowed.
H340	May cause genetic defects.
H351	Suspected of causing cancer
H360	May damage fertility or 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 and procedure used to derive the classification for the mixture according to the UN GHS Purple Book (Rev.9, 2021):

Acute Tox. 5 (Oral)	H302	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

Solo

Safety Data Sheet

according to the GHS Classification and labelling of chemicals – SANS 10234 and the Regulations for Hazardous agents 2021

Carc. 2	H351	Calculation method
Muta. 1B	H340	Calculation method
Repr. 1B	H360	Calculation method
STOT RE 2	H373	Calculation method

Safety Data Sheet (SDS)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.