FarmAg Diuron 800 SC (diuron 800 g/l)

Safety Data Sheet

according to SANS 10234:2019 and SANS 11014:2010
Issue date: 9/1/2022 Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product form	:	Mixture
Trade name	:	FarmAg Diuron 800 SC (diuron 800 g/l)
Type of product	:	Herbicide
CAS-No.	:	330-54-1
Product group	:	End product

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

Use of the substance/mixture	:	A long acting residual suspension concentrate herbicide fir the control of annual weeds as listed in citrus, avocados, bananas, coffee, mangoes, pineapples, macadamia and pecan nuts, and sugarcane, as well as in industrial areas along rail tracks and on road shoulders

1.3. Supplier's details

Supplier
Farm-Ag International (Pty) Ltd
Old Mill Industrial Park
61, Marshall Drive
P.O. Box 1523
4300 Mount Edgecombe – Durban KwaZulu Natal
South Africa
T 031 003 3486

1.4. Emergency telephone number

Emergency number	:	24 Hr Emergency Number: In case of Poisoning: Poison Information Helpline : 0861 555 777 In case of Spillage: HAZMAT:0800 147 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Acute toxicity (dermal), Category 5	H313
Acute toxicity (inhalation:vapour) Category 3	H331
Carcinogenicity, Category 2	H351
Specific target organ toxicity – Repeated exposure, Category 2	H373
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

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA) :

Signal word (GHS-ZA)	:	Danger
Hazardous ingredients	:	Diuron TC, Monoethylene glycol
Hazard statements (GHS ZA)	:	H313 - May be harmful in contact with skin H331 - Toxic if inhaled.

		H351 - Suspected of causing cancer. H373 - May cause damage to organs through prolonged or repeated exposure. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (GHS ZA)	:	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. P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe spray, vapours. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308+P313 - IF exposed or concerned: Get medical advice/attention. P312 - Call a doctor if you feel unwell. P314 - Get medical advice/attention if you feel unwell. P321 - Specific treatment (see ANTIDOTE, supplemental first aid instruction on this label). P391 - Collect spillage. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up. P501 - Dispose of contents and container to an approved waste disposal plant.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects	:	Suspected of causing cancer,May cause damage to organs through prolonged or repeated exposure,Toxic if inhaled,Harmful in contact with skin,Very toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
Diuron TC	CAS-No.: 330-54-1	≥ 60 – < 65	Acute Tox. 5 (Oral), H303 Acute Tox. 5 (Dermal), H313 Acute Tox. Not classified (Inhalation:dust,mist) Carc. 2, H351 STOT RE 2, H373 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
Monoethylene glycol	CAS-No.: 107-21-1	≥ 1 – < 5	Flam. Liq. Not classified Acute Tox. Not classified (Oral) Acute Tox. 5 (Dermal), H313 Acute Tox. 3 (Inhalation:vapour), H331 Aquatic Acute Not classified
Tristyrylphenol Ethoxylates	CAS-No.: 99734-09-5	≥ 1 – < 5	Eye Irrit. 2A, H319 Aquatic Chronic 2, H411

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If severe symptoms or signs of poisoning are evident, other than Metheglobinemia, the operation of an alternative or additional toxicant should be suspected. CNS depression and hypoxemia may be noted if methemoglobinemia is present. Nausea, vomiting and diarrhea may be noted in patients with Methemoglobinemia, due to absorption of excessive amounts of these agents.
Treat symptomatically and supportively as and when required.

First-aid measures after inhalation : Remove from exposure area to fresh air immediately. If breathing has stopped, perform mechanical artificial Respiration. Keep person warm and at rest. Treat symptomatically and supportively. Obtain medical attention if necessary.

First-aid measures after skin contact : Remove contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash skin thoroughly and gently with water and a non-abrasive soap. Seek medical advice if necessary. The product is not considered to be a skin sensitiser, but persons who become sensitized may require specialized medical management with anti-inflammatory agents.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Remove by gastric lavage and catharsis. Maintain blood pressure and airway. Do not perform gastric lavage if victim is unconscious. Seek medical attention. Administration of gastric lavage or oxygen should be performed by qualified medical personnel.

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

Symptoms/effects after inhalation : May cause irritation of nose and throat if inhaled.

Symptoms/effects after skin contact : Causes mild skin irritation.

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

Methemoglobinemia may be noted in large ingestions:

METHEMOGLOBINEMIA: Administer 1 to 2 mg / kg of 1% methylene blue slowly IV if the patient is cyanotic and symptomatic or the methemoglobin level is greater than 30% in an asymptomatic patient. Additional doses may be required. Treat symptomatically and supportively as and when required.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Water spray as a fog can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Contain water used for fire-fighting for later disposal.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fire fighting: Remove container from fire area if possible. Contain fire control water for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours. Keep material away from water sources and sewers. Do not touch material and avoid breathing fumes. Keep upwind.
Personal Protective Equipment: Fire may produce irritating or poisonous vapors (corrosive fumes of chlorides and toxic oxides of nitrogen and carbon) of combustion. Fire fighters and others that may be exposed should wear full chemical protective clothing and self-contained breathing apparatus.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

Personal protection (Emergency response) : Wear respiratory protection,Wear protective gloves,Wear protective clothing,Wear eye protection,Wear a face shield

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Do not breathe spray, vapours. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Small liquid spills of Diuron should be reduced to a solid phase by evaporation, or taken up with a non-combustible absorbent material (e.g.: sand), and then placed in a container for later disposal. Large liquid spills on land first should be diked to prevent runoff from entering water sources and sewers. All spills on land should be deposited in excavated pits, ponds, or other holding areas which have been sealed with an impermeable, flexible membrane liner. Solids are then covered with a plastic Sheet, while bulk liquids are absorbed with fly ash or cement powder. Spills of Diuron into bodies of water are first treated with activated carbon, then the immobilized masses of pollutant and precipitates are removed with mechanical dredges or lifts. Before permanent land disposal of Diuron, consult with environmental regulatory agencies. Keep spectators away and upwind.

Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe vapours, spray. Use only outdoors or in a well-ventilated area. Do not get in eyes, on skin, or on clothing.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Storage area : Store in a dark area. Store in a dry area. Store out of reach of unauthorised persons, children and animals.

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: Sources of sparks, flame or heat.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: Water supplies. Food supplies.

Maximum storage period : 2 years

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Diuron TC (330-54-1)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Diuron
OEL TWA	10 mg/m³
Regulatory reference	Government Notice No. R. 280, 2021
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	Diuron
OEL TWA	10 mg/m³
Regulatory reference	Government Notice No. R 904

Monoethylene glycol (107-21-1)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Ethylene glycol
OEL TWA	50 mg/m³ (V: vapour fraction) 100 mg/m³ (V: vapour fraction)
OEL STEL	20 mg/m³ (H: aerosol only)
Remark	SKIN (danger of cutaneous absorption)
Regulatory reference	Government Notice No. R. 280, 2021
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	Ethylene glycol (Ethane-1,2-diol; 1,2-Dihydroxyethane)
OEL TWA	20 mg/m³
OEL STEL	40 mg/m³
Regulatory reference	Government Notice No. R 904

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection : Protective gloves
Eye protection : Safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : [In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : No data available
Colour : White.

Odour	:	Estery odour.
Odour threshold	:	No data available
pH	:	6 – 8
pH solution	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	Not applicable
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)	:	Not applicable
Vapour pressure	:	No data available
Vapour pressure at 50 °C	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	1.27
Relative density of saturated gas/air mixture	:	No data available
Density	:	No data available
Relative gas density	:	No data available
Solubility	:	Dispersible.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Partition coefficient n-octanol/water (Log Kow)	:	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
Lower explosion limit	:	No data available
Upper explosion limit	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : May be harmful in contact with skin.
Acute toxicity (inhalation) : Toxic if inhaled.

FarmAg Diuron 800 SC (diuron 800 g/l) (330-54-1)	
ATE ZA (Dermal)	2500 mg/kg bodyweight
ATE ZA (vapours)	3 mg/l/4h
Unknown acute toxicity (GHS ZA)Unknown acute toxicity (GHS ZA)	2.81% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 32.41% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 96.98% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

Diuron TC (330-54-1)	
LD50 oral rat	4150 mg/kg
LD50 dermal rat	> 5000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	> 7 mg/l/4h (4 hr)

Monoethylene glycol (107-21-1)	
LD50 oral rat	7712 mg/kg bodyweight (according to BASF-internal standards, Rat, Male / female, Experimental value, Aqueous solution, Oral, 7 day(s))
LD50 dermal	> 3500 mg/kg bodyweight (Mouse, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	> 2.5 mg/l (6 h, Rat, Male / female, Experimental value, Inhalation (aerosol))

Xanthan gum (11138-66-2)	
LD50 oral rat	45000 mg/kg

Water (7732-18-5)	
LD50 oral rat	90000 mg/kg

Skin corrosion/irritation : Not classified
pH: 6 – 8
Serious eye damage/irritation : Not classified
pH: 6 – 8
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Suspected of causing cancer.
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Diuron TC (330-54-1)	
	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : 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.

Diuron TC (330-54-1)	
LC50 - Fish [1]	14.7 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, GLP)
LC50 - Fish [2]	6.7 mg/l Sheepshead minnow
EC50 - Crustacea [1]	1.4 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
EC50 - Other aquatic organisms [1]	0.0183 mg/l Lemna gibba (7d)
EC50 - Other aquatic organisms [2]	1 mg/l Brown shrimps
EC50 72h - Algae [1]	22 µg/l (OECD 201: Alga, Growth Inhibition Test, Scenedesmus subspicatus, Static system, Fresh water, Experimental value, GLP)
BCF - Fish [1]	< 14 (Cyprinus carpio, Chronic)
BCF - Fish [2]	174 – 305 (Pisces)
BCF - Other aquatic organisms [1]	5.2 (OECD 305: Bioconcentration: Flow-Through Fish Test, 42 day(s), Mytilus edulis, Flow-through system, Salt water, Experimental value)
Partition coefficient n-octanol/water (Log Kow)	2.85
Partition coefficient n-octanol/water (Log Pow)	2.68 – 2.96
Additional ecotoxicological information	Oral LD50 (14d) for bobwhite quail 1104 mg/kg. Dietary LC50 (8d) for bobwhite quail 1730, Japanese Quail >5000, mallard ducks 5000, pheasants > 5000 ppm diet. Bees (LD50, mg/bee) Practically non toxic; Worms LC50 (14d) >400 mg/kg.

Monoethylene glycol (107-21-1)	
LC50 - Fish [1]	> 72860 mg/l (EPA 600/4-90/027, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, Daphnia magna, Static system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	-1.36 (Experimental value)

Xanthan gum (11138-66-2)	
LC50 - Fish [1]	420 mg/l Source: ECOTOX

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

12.2. Persistence and degradability

FarmAg Diuron 800 SC (diuron 800 g/l) (330-54-1)	
Persistence and degradability	No additional information available

Diuron TC (330-54-1)	
Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water.

Monoethylene glycol (107-21-1)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.47 g O_2/g substance
Chemical oxygen demand (COD)	1.24 g O_2/g substance
ThOD	1.29 g O_2/g substance

12.3. Bioaccumulative potential

FarmAg Diuron 800 SC (diuron 800 g/l) (330-54-1)	
Bioaccumulative potential	No additional information available

Diuron TC (330-54-1)	
BCF - Fish [1]	< 14 (Cyprinus carpio, Chronic)
BCF - Fish [2]	174 – 305 (Pisces)
BCF - Other aquatic organisms [1]	5.2 (OECD 305: Bioconcentration: Flow-Through Fish Test, 42 day(s), Mytilus edulis, Flow-through system, Salt water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	2.68 – 2.96
Partition coefficient n-octanol/water (Log Kow)	2.85
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Monoethylene glycol (107-21-1)	
Partition coefficient n-octanol/water (Log Pow)	-1.36 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

12.4. Mobility in soil

FarmAg Diuron 800 SC (diuron 800 g/l) (330-54-1)	
Mobility in soil	No additional information available

Diuron TC (330-54-1)	
Surface tension	72.1 mN/m (20 °C, Aqueous solution, OECD 115: Surface Tension of Aqueous Solutions)
Partition coefficient n-octanol/water (Log Pow)	2.68 – 2.96
Partition coefficient n-octanol/water (Log Kow)	2.85
Ecology - soil	Low potential for adsorption in soil.

Monoethylene glycol (107-21-1)	
Surface tension	48.4 mN/m (20 °C)
Partition coefficient n-octanol/water (Log Pow)	-1.36 (Experimental value)
Ecology - soil	Highly mobile in soil.

Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available

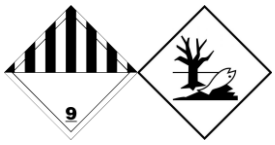
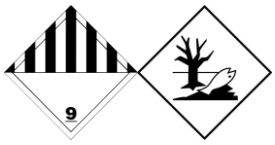
SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
3082	3082	3082
14.2. Proper Shipping Name		
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains diuron 800 g/l)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains diuron 800 g/l)	Environmentally hazardous substance, liquid, n.o.s. (contains diuron 800 g/l)
14.3. Transport hazard class(es)		
9	9	9
		
14.4. Packing group		
III	III	III
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

SANS

Special provisions (SANS) : 179, 274, 331, 335
Limited quantities (SANS) : 5 L
Limited quantities (SANS) : 5 L
Packagings, large packagings and IBCs Packing instructions (SANS) : P001, IBC03, LP01
Packagings, large packagings and IBCs Special packing instructions (SANS) : PP1
Portable tank and bulk containers instructions (SANS) : T4
Portable tank and bulk container special provisions (SANS) : TP1, TP29

IMDG

Special provisions (IMDG) : 274, 335, 969
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : LP01, P001
Special packing provisions (IMDG) : PP1
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1, TP29
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG) : A

IATA

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y964
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 964

PCA max net quantity (IATA)	:	450L
CAO packing instructions (IATA)	:	964
CAO max net quantity (IATA)	:	450L
Special provisions (IATA)	:	A97, A158, A197, A215
ERG code (IATA)	:	9L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

No additional information available

SECTION 16: Other information

Issue date : 01/09/2022

Full text of H-statements	
H303	May be harmful if swallowed
H313	May be harmful in contact with skin
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H351	Suspected of causing cancer.
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.
H411	Toxic to aquatic life with long lasting effects.

Safety Data Sheet (SDS), South Africa

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.