



Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l)

Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 8
Issue date: 4/6/2023 Version: 1.0

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

1.1. GHS product identifier

Product form	: Mixture
Trade name	: Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l)
Type of product	: Fungicide
CAS-No.	: [107534-96-3] [141517-21-7]
Product group	: End product

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. 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

1.5. Emergency phone 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: Hazard identification

2.1. GHS classification of the substance/mixture and any national or regional information

Classification according to the United Nations GHS

Skin sensitisation, Category 1	H317
Reproductive toxicity, Category 2	H361
Reproductive toxicity, Additional category, Effects on or via lactation	H362
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	: May cause harm to breast-fed children,Suspected of damaging fertility or the unborn child,May cause an allergic skin reaction,Very toxic to aquatic life with long lasting effects.
---	---

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l)

Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 8

2.2. GHS label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA) :



Signal word (GHS-ZA) :

Warning

Hazardous ingredients :

Tebuconazole TC, Trifloxystrobin TC

Hazard statements (GHS ZA) :

H317 - May cause an allergic skin reaction
H361 - Suspected of damaging fertility or the unborn child
H362 - May cause harm to breast-fed children
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.
P201 - Obtain special instructions before use.
P260 - Do not breathe dusts or mists.
P263 - Avoid contact during pregnancy and while nursing.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/....
P302+P352 - IF ON SKIN: Wash with plenty of soap and water
P308+P313 - If exposed or concerned: Get medical advice/attention
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P362+P364 - Take off contaminated clothing and wash it before reuse.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of container to an approved waste disposal plant.

2.3. Other hazards which do not result in classification or are not covered by the GHS

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to the United Nations GHS
Tebuconazole TC	CAS-No.: 107534-96-3	≥ 15 – < 20	Acute Tox. 4 (Oral), H302 Acute Tox. Not classified (Dermal) Acute Tox. Not classified (Inhalation:dust,mist) Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Trifloxystrobin TC	CAS-No.: 141517-21-7	≥ 5 – < 10	Acute Tox. Not classified (Oral) Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Sens. 1, H317 Lact., H362 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l)

Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 8

SECTION 4: First aid measures

4.1. Description of necessary first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effect, acute and delayed

Symptoms/effects after skin contact	: May cause an allergic skin reaction.
-------------------------------------	--

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. There is no specific antidote.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) 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. Do not use direct jet of water. Contain water used for fire-fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

5.2. Specific hazards arising from the chemical

Fire hazard	: In the event of fire the following may be released: Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx), Hydrogen fluoride.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective actions for fire-fighters

Firefighting instructions	: In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self contained breathing apparatus. Further information: Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.
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

6.1.1. For non-emergency personnel

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

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".
----------------------	---

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l)

Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 8

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 materials for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
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 : Ensure good ventilation of the work station. Obtain special instructions before use. Avoid contact during pregnancy/while nursing. Do not breathe spray, vapours. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with skin and eyes.
Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. 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 cool.
Storage area : Keep only in the original container. Store in a dry area. Keep out of direct sunlight. Store out of reach of unauthorised persons, children and animals.
Information on mixed storage : KEEP SUBSTANCE AWAY FROM: Food supplies. Water supplies.
Maximum storage period : 2 years

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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

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

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l)

Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 8

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Appearance	: Homogenous liquid suspension.
Colour	: White.
Odour	: Slight chemical odour.
Odour threshold	: No data available
pH	: 6.46
Density	: 1.0789 g/ml

9.2. Data relevant with regard to physical hazard classes (supplemental)

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)	: 8069,72 mg/kg (Not classified)
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l) ([107534-96-3] [141517-21-7])

Unknown acute toxicity (GHS ZA)Unknown acute toxicity (GHS ZA)	12.04% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 99.62% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 99.62% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))
--	--

Tebuconazole TC (107534-96-3)

LD50 oral rat	1700 mg/kg Female Rat
LD50 oral	4000 mg/kg Male rat
LD50 dermal rat	> 5000 mg/kg (Rat, Experimental value, Dermal)
LC50 Inhalation - Rat (Dust/Mist)	> 5.1 mg/l/4h Dust

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l)

Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 8

Trifloxystrobin TC (141517-21-7)	
LD50 oral rat	> 5000 mg/kg Mice
LD50 oral	> 5000 mg/kg Rats
LD50 dermal rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	> 4.65 mg/l

Calcium lignosulfonate (8061-52-7)	
LD50 oral rat	> 5000 mg/kg

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: 6.46
Serious eye damage/irritation	: Not classified pH: 6.46
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Suspected of damaging fertility or the unborn child. May cause harm to breast-fed children.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
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.

Tebuconazole TC (107534-96-3)	
LC50 - Fish [1]	4.4 mg/l (US EPA, 96 h, Salmo gairdneri, Flow-through system, Experimental value)
LC50 - Fish [2]	5.7 mg/l Bluegill sunfish
EC50 - Crustacea [1]	2.79 mg/l
ErC50 algae	3.8 mg/l (OECD 201: Alga, Growth Inhibition Test, 96 h, Scenedesmus subspicatus, Experimental value)
Additional data	Birds: Acute oral LD50 for male Japanese quail 4438, female Japanese quail 2912, bobwhite quail 1988 mg/kg b.w. Dietary LC50 (5d) for mallard ducks >4816, bobwhite quail >5000 mg/kg feed. Bees (LD50,mg/bee):> 200 (contact); >83 (oral) (48h). Worms: Acute LC50 (14d) 1381 mg/kg dry soil.

Trifloxystrobin TC (141517-21-7)	
LC50 - Fish [1]	0.015 mg/l Rainbow trout
LC50 - Fish [2]	0.054 mg/l Bluegill Sunfish
LC50 - Other aquatic organisms [1]	0.016 mg/l Daphnia (48 h)

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l)

Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 8

Trifloxystrobin TC (141517-21-7)	
EC50 - Crustacea [1]	0.016 mg/l (FIFRA 72-2, 48 h, Daphnia magna, Flow-through system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	0.0174 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Cell numbers)
Additional data	Birds: Acute oral LD50 for bobwhite quail >2000, mallard ducks >2250 mg/kg. Dietary LC50 for bobwhite quail and mallard ducks > 5050 ppm. Algae EbC50 0.0053 mg/l. Other aquatic spp. Toxic to aquatic organisms in laboratory tests, but rapid dissipation in biotic environments. Low risk to aquatic ecosystems has been demonstrated in outdoor mesocosm tests. Bees (LD50, mg/kg) >200 (oral and contact). Worms LC50 (14d) >1000 mg/kg soil.

Calcium lignosulfonate (8061-52-7)	
LC50 - Fish [1]	8327.32 mg/l Source: Ecological Structure Activity Relationships
EC50 96h - Algae [1]	79201.828 mg/l Source: Ecological Structure Activity Relationships

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

Sodium benzoate (532-32-1)	
LC50 - Fish [1]	484 mg/l (EPA OPP 72-1, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value)

12.2. Persistence and degradability

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l) ([107534-96-3] [141517-21-7])	
Persistence and degradability	No additional information available

Tebuconazole TC (107534-96-3)	
Persistence and degradability	Not readily biodegradable in water.

Trifloxystrobin TC (141517-21-7)	
Persistence and degradability	Dissipates rapidly from soil and surface water. Soil DT50 4.2-95 d. Koc 1642-3745. No leaching potential. In water, DT50 0.3-1 d, DT90 4-9d.

Sodium benzoate (532-32-1)	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l) ([107534-96-3] [141517-21-7])	
Bioaccumulative potential	No additional information available

Tebuconazole TC (107534-96-3)	
Partition coefficient n-octanol/water (Log Kow)	3.7 (Literature study)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Trifloxystrobin TC (141517-21-7)	
BCF - Fish [1]	431 l/kg (EPA OPP 165-4: Laboratory Studies of Pesticide Accumulation in Fish, 28 day(s), Lepomis macrochirus, Flow-through system, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	4.5
Partition coefficient n-octanol/water (Log Kow)	4.5 (Experimental value, EU Method A.8: Partition Coefficient, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l)

Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 8

Calcium lignosulfonate (8061-52-7)	
Partition coefficient n-octanol/water (Log Kow)	0.33 Source: Quantitative Structure Activity Relation
Sodium benzoate (532-32-1)	
Partition coefficient n-octanol/water (Log Kow)	1.88 (Read-across)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Kow)	-1.38

12.4. Mobility in soil

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l) ([107534-96-3] [141517-21-7])	
Mobility in soil	No additional information available
Tebuconazole TC (107534-96-3)	
Surface tension	64.2 mN/m (28.8 mg/l)
Ecology - soil	No (test)data on mobility of the substance available. Not toxic to bees.
Trifloxystrobin TC (141517-21-7)	
Surface tension	65.3 – 66.4 mN/m (Experimental value, 0.1 g/l, OECD 115: Surface Tension of Aqueous Solutions)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.215 – 3.57 (log Koc, Calculated value)
Ecology - soil	Low potential for mobility in soil.
Sodium benzoate (532-32-1)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.219 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

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. UN Proper Shipping Name		
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains tebuconazole 200 g/l + trifloxystrobin 100 g/l)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains tebuconazole 200 g/l + trifloxystrobin 100 g/l)	Environmentally hazardous substance, liquid, n.o.s. (contains tebuconazole 200 g/l + trifloxystrobin 100 g/l)

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l)

Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 8

SANS	IMDG	IATA
14.3. Transport hazard class(es)		
9	9	9
14.4. Packing group, if applicable		
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 IMO instructions

Not applicable

Navaho (Tebuconazole 200 g/l + Trifloxystrobin 100 g/l)

Safety Data Sheet

According to Regulations for Hazardous Chemical Agents, 2021 and United Nations GHS revision 8

SECTION 15: Regulatory information

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

No additional information available

SECTION 16: Other information

Issue date : 06/04/2023

Full text of H-statements:	
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H332	Harmful if inhaled
H361	Suspected of damaging fertility or the unborn child
H362	May cause harm to breast-fed children
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life

Safety Data Sheet (SDS), South Africa (HCA)

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.