

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

1.1. Product identifier

CA Code (Nufarm)	: 2315
Oracle Recipe Code (Nufarm)	: 600000524
Item codes	: 100010069
Product form	: Mixture
Trade name	: Tandus
Type (Nufarm)	: Country Specific
Country (Nufarm)	: United Kingdom

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

1.2.1. Relevant identified uses

Main use category	: Professional use
Use of the substance/mixture	: Herbicide

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Distributor

Nufarm UK Limited
Wyke Lane
Wyke
BD12 9EJ Bradford - UK
T +44 (0)1274 691234 - F +44 (0) 1274691176
infouk@uk.nufarm.com

1.4. Emergency telephone number

Emergency number	: +44 (0)1274 696603
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin sensitisation, Category 1	H317
Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336
Aspiration hazard, Category 1	H304
Hazardous to the aquatic environment — Chronic Hazard, Category 2	H411

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. May cause an allergic skin reaction. Causes skin irritation. Causes serious eye irritation. May be harmful if swallowed and enters airways. May cause respiratory irritation. May cause drowsiness or dizziness. Very toxic to aquatic life with long lasting effects. May be fatal if swallowed and enters airways.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H304 - May be fatal if swallowed and enters airways.
H317 - May cause an allergic skin reaction.
H336 - May cause drowsiness or dizziness.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP)

: P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 - Use only outdoors or in a well-ventilated area.

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P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, face protection, eye protection.
P301+P310 - IF SWALLOWED: Immediately call a doctor, a POISON CENTER.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Fluroxypyr-meptyl	(CAS-No.) 81406-37-3 (EC-No.) 279-752-9 (EC Index-No.) 607-272-00-5	28.4	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Solvent naphtha, petroleum, heavy aromatic	(CAS-No.) 64742-94-5 (EC-No.) 265-198-5 (EC Index-No.) 649-424-00-3	20-25	Flam. Liq. 3, H226 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Poly(oxy-1,2-ethanediyl), .alpha.-tridecyl-.omega.-hydroxy-, phosphate	(CAS-No.) 9046-01-9 (EC-No.) 618-558-4	1-5	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412
Benzenesulfonic acid, dodecyl-, calcium salt	(CAS-No.) 26264-06-2 (EC-No.) 247-557-8	1-5	Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Chronic 3, H412

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. Call a POISON CENTER/doctor.
- First-aid measures after skin contact : Take off immediately all contaminated clothing and wash it before reuse. Gently wash with plenty of soap and water. Get medical advice/attention.
- 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 : Do not induce vomiting. Call a physician immediately. Give nothing to drink.

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

- Symptoms/effects : May cause drowsiness or dizziness.
- Symptoms/effects after inhalation : May cause respiratory irritation.
- Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Eye irritation.
- Symptoms/effects after ingestion : Risk of lung oedema.

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

Treat symptomatically. No specific antidote.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
- Unsuitable extinguishing media : high volume water jet.

5.2. Special hazards arising from the substance or mixture

- Hazardous decomposition products in case of fire : Nitrogen oxides. Hydrogen chloride. Chlorine. Carbon oxides (CO, CO₂). Hydrogen fluoride.

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5.3. Advice for firefighters

- Precautionary measures fire : Eliminate all ignition sources if safe to do so. Evacuate area.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
- Other information : Exercise caution when fighting any chemical fire. Contain the spreading of extinguishing fluids (this product may be hazardous for the environment).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Wear personal protective equipment. Refer to chapter 8.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Do not flush into surface water or sewer system.

6.3. Methods and material 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 : Never return spills in original containers for possible later re-use.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing mist. Avoid contact with skin and eyes. Keep out of the reach of children.
- Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. 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

- Technical measures : Ground/bond container and receiving equipment.
- Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up. Store at room temperature.
- Storage temperature : > 0 °C
- Heat and ignition sources : Keep away from open flames, hot surfaces and sources of ignition.
- Information on mixed storage : Keep away from food, drink and animal feeding stuffs.
- Special rules on packaging : Keep only in original container. Store in a closed container.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Fluroxypyr-meptyl (81406-37-3)		
EU	Notes	TWA 10 mg/m3 (DOW IHG)

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Chemical resistant gloves (according to European standard EN 374 or equivalent)

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Eye protection:

Safety glasses with side shields. EN 166

Skin and body protection:

According to the conditions of use, protective gloves, apron, boots, head and face protection must be worn. EN 14605. EN ISO 13982

Respiratory protection:

Suitable respiratory protection for higher concentrations or longer exposure: combination filter for organic, inorganic, acidic inorganic and basic gases / vapors (e.g. EN 14387 type ABEK).



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Concentrate.
Colour	: light brown.
Odour	: characteristic.
Odour threshold	: No data available
pH	: 3.8
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	: 68 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.02 g/cm ³ @ 20°C
Solubility	: Water: Emulsifiable in water
Log Pow	: No data available
Viscosity, kinematic	: 15.5 mm ² /s @ 20°C
Viscosity, dynamic	: 15.8 mPa·s @ 20°C
Explosive properties	: Not explosive.
Oxidising properties	: Non oxidizing.
Explosive limits	: No data available

9.2. Other information

Additional information : None

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No data available.

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10.5. Incompatible materials

Strong bases.

10.6. Hazardous decomposition products

No data available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Tandus	
LD50 oral rat	> 2500 mg/kg
LD50 dermal rat	> 2000 mg/kg
Fluroxypyr-meptyl (81406-37-3)	
LD50 oral rat	3162 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	> 1.16 mg/l/4h No mortality at this concentration
Solvent naphtha, petroleum, heavy aromatic (64742-94-5)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2 ml/kg
LC50 Inhalation - Rat	> 590 mg/m ³ (Exposure time: 4 h)
Benzenesulfonic acid, dodecyl-, calcium salt (26264-06-2)	
LD50 oral rat	1086 - 1980 mg/kg
Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
	pH: 3.8
Additional information	: rabbit
Serious eye damage/irritation	: Not classified
	pH: 3.8
Additional information	: rabbit
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Additional information	: mouse
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness.
STOT-repeated exposure	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.

Tandus	
Viscosity, kinematic	15.5 mm ² /s @ 20°C

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)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Toxic to aquatic life with long lasting effects.

Tandus	
LC50 96h fish	16.7 mg/l
EC50 48h crustacea	29.2 mg/l
EC50 72h algae	3.65 mg/l
Additional ecotoxicological information	

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EC50 Lemna gibba (Duckweed)	
Dose: >100 mg/L	
Exposure time: 168 h	

Solvent naphtha, petroleum, heavy aromatic (64742-94-5)	
LC50 96h fish	19 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
LC50 96h fish	2.34 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 48h crustacea	0.95 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Benzenesulfonic acid, dodecyl-, calcium salt (26264-06-2)	
LC50 96h fish	10.8 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

12.2. Persistence and degradability

Tandus	
Persistence and degradability	No data available.

Fluroxypyr-meptyl (81406-37-3)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	32 % (OECD 301D method; 28 d)

12.3. Bioaccumulative potential

Tandus	
Bioaccumulative potential	No available data.

Fluroxypyr-meptyl (81406-37-3)	
Bioconcentration factor (BCF REACH)	26 Oncorhynchus mykiss (Rainbow trout)
Log Pow	5.04
Bioaccumulative potential	Low bioaccumulation potential.

Solvent naphtha, petroleum, heavy aromatic (64742-94-5)	
BCF fish 1	61 - 159
Log Pow	2.9 - 6.1

12.4. Mobility in soil

Tandus	
Mobility in soil	No data available
Surface tension	> 33 mN/m @ 25°C

12.5. Results of PBT and vPvB assessment

Tandus	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

12.6. Other adverse effects

Other adverse effects : None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

SECTION 14: Transport information

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

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

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ADR	IMDG	IATA
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

- Overland transport

Classification code (ADR)	: M6
Special provisions (ADR)	: 274, 335, 375, 601
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Special packing provisions (ADR)	: PP1
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1, TP29
Tank code (ADR)	: LGBV
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13
Hazard identification number (Kemler No.)	: 90
Orange plates	:

EAC code : •3Z

- Transport by sea

Special provisions (IMDG)	: 274, 335, 969
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
Special packing provisions (IMDG)	: PP1
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP2, TP29
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-F
Stowage category (IMDG)	: A

- Air transport

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

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CAO max net quantity (IATA) : 450L
Special provisions (IATA) : A97, A158, A197
ERG code (IATA) : 9L

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

None

SECTION 16: Other information

Full text of H- and EUH-statements:

Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage
H332	Harmful if inhaled.
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

NUFARM SDS TEMPLATE

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.