TANDUS®

H

MAPP 18071
PCS No. 05836

Contains 200 g/L (20.6% w/w) fluroxypyr as an emulsifiable concentrate
TANDUS is a translocated herbicide for the control of broad leaved weeds, especially cleavers in: Barley, Forage and Grain Maize, Grassland, Oats, Rye, Triticale and Wheat

Safety Information

DANGER

Flammable liquid and vapour
May be fatal if swallowed and enters airways
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation
May cause respiratory irritation
May cause drowsiness or dizziness
Very Toxic to aquatic life with long lasting effects
Keep away from heat / sparks / open flames / hot surfaces. - No smoking
Avoid breathing vapours or spray
Wash hands thoroughly after handling
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves / protective clothing / eye protection / face protection
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction
Dispose of contents/ container to a licensed hazardous-waste disposal contractor or collection site except for triple-rinsed empty clean containers which can be disposed of as non-hazardous waste
Explosive when dry
To avoid risks to human health and the environment, comply with the instructions for use

MAPP 18071, PCS No: 05836

IMPORTANT INFORMATION
FOR USE ONLY AS A PROFESSIONAL HERBICIDE
See Directions for Use on attached leaflet for the following: Safety Precautions, Maximum individual dose of product, Maximum total dose, Latest time of application and other specific restrictions.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCT

Authorisation Holder and Marketing Company
Nufarm UK Limited, Wyke Lane, Wyke, Bradford, West Yorkshire BD12 9EJ. UK.

Technical Helpline telephone number:
+44 (0)1274 694714
24-hour emergency telephone number:
+44 (0)1274 696603

FOR PROFESSIONAL USE ONLY.
PROTECT FROM FROST.
SHAKE THOROUGHLY BEFORE USE.

2 Litres e

The (COSHH) Control of Substances Hazardous to Health Regulations may apply in the UK

Bxxxx-00x xxxx

Nufarm

Grow a better tomorrow.

PEEL BACK FOR DIRECTIONS FOR USE LEAFLET

IMPORTANT INFORMATION
FOR USE ONLY AS A PROFESSIONAL HERBICIDE.

Crop or Use	Maximum individual Dose (L/product/ha)	Maximum total Dose (L/product/ha)	Latest time of application
Winter Wheat, Winter Barley	1.0	1.0	Before flag leaf sheath opening stage (GS47)
Winter Oats, Rye, Triticale, Durum Wheat	1.0	1.0	Before second node detectable stage (GS32)
Spring Wheat, Spring Barley	0.75	0.75	Before flag leaf sheath extending stage (GS41)
Spring Oats	0.75	0.75	Before second node detectable stage (GS32)
Forage and Grain Maize (open crops)	1.0	1.0	Before seven leaves unfolded stage (GS17)
Grassland (Established)	2.0	2.0	-
Grassland (newly sown leys)	0.75	0.75	-
Method of application:	**Tractor mounted sprayer / Hydraulic nozzle applicator / knapsack**		

Other specific restrictions

1. A maximum total dose of 0.75 litres per hectare must be observed for applications made to cereals between crop emergence in the year of planting and 1st February in the year of harvest.
2. Livestock must be kept out of treated areas for at least 7 days following treatment IF RAGWORT IS PRESENT, FOLLOW THE GUIDANCE IN THE 'DIRECTIONS FOR USE'
3. Do not re-use container for any purpose.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS

SAFETY PRECAUTIONS

Operator protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES and FACE PROTECTION (FACESHIELD) when handling the concentrate.

WEAR SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces.

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) and SUITABLE PROTECTIVE GLOVES when applying by hand-held equipment.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection. – UK Only

WHEN USING DO NOT EAT, DRINK OR SMOKE

WASH CONCENTRATE from skin or eyes immediately.

WASH HANDS AND EXPOSED SKIN before meals and after work.

AVOID CONTACT WITH SKIN

IF YOU FEEL UNWELL, seek medical advice immediately (show the label where possible).

Environmental protection

Livestock must be kept out of treated areas for at least 7 days following treatment IF RAGWORT IS PRESENT, FOLLOW THE GUIDANCE IN THE 'DIRECTIONS FOR USE'

Bury or remove spillages

Do not contaminate water with the product or its container (Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads).

Extreme care must be taken to avoid spray drift onto non-crop plants outside of the target area

Storage and disposal

DO NOT RE-USE CONTAINER for any purpose

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS

KEEP OUT OF REACH OF CHILDREN

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

WASH OUT CONTAINER THOROUGHLY, empty washings into spray tank, and dispose of safely.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

GENERAL INFORMATION

Activity

TANDUS is a translocated herbicide taken up by the leaves of weeds. It is essential that the target weeds have full emerged before application and that good spray cover of the weed foliage is achieved. Weeds which emerge after application are not controlled.

Growing Conditions

Best results are achieved against small weeds growing actively under warm, moist conditions; these conditions are particularly important for the control of cleavers. Ensure that crops are vigorous with growth unaffected by frost, pests, disease, nutrient deficiency or moisture stress before treatment. Do not treat waterlogged crops or crops under drought stress.

CROP SPECIFIC INFORMATION
Cereals and forage and grain maize:

CEREALS

Weeds Controlled: Broad-leaved weeds
Crops: Winter and spring wheat, winter and spring barley, durum wheat, winter and spring oats, rye, triticale
Other Specific Information: Spring Application recommendations apply from March onwards

Crop	Weeds controlled and latest stage of control	Time of Application for Crop	Application Rate
Autumn application to Winter Wheat and Winter Barley	Common chickweed (50 mm) Field forget-me-not (50 mm) Henbit dead-nettle (6 true leaves) Red dead-nettle (6 true leaves) Charlock (Up to 6 true leaves) Common poppy (Up to 6 true leaves) Groundsel (Up to 6 true leaves) Mayweed spp (Up to 6 true leaves) Shepherd's purse (Up to 6 true leaves) Speedwell spp (Up to 6 true leaves) Volunteer rape (Up to 6 true leaves)	From two leaf stage of the crop until the end of February (but not after first node detectable stage GS31). *Autumn applications will not control weeds which germinate after spraying. In most circumstances a follow-up spray will be necessary to obtain season long weed control	0.5 l/ha TANDUS + recommended rate of HBN[1]
	Cleavers (50mm)	Applications can be made to crops sown in the autumn	0.75 l/ha TANDUS + recommended rate of HBN[1]
Spring application to Winter Wheat and Winter Barley	Cleavers (flowering) Common chickweed (flowering) Black bindweed (To 6 leaves) Red dead-nettle (To 6 true leaves) Knotgrass (To 2 leaves)	From two leaf stage of the crop to before flag leaf sheath opening (GS47)	1 l/ha
Spring application to Winter Oats, Durum wheat, Rye and Triticale	Cleavers (flowering) Common chickweed (flowering) Black bindweed (To 6 leaves) Red dead-nettle (To 6 true leaves) Knotgrass (To 2 leaves)	From two leaf stage of the crop (GS12) to before second node detectable stage. (Before GS32)	1 l/ha Do not tank mix with any herbicide for use on triticale.
Spring Wheat Spring Barley	Cleavers (Up to 10 cm) Common chickweed (Up to 10 cm) Black bindweed (Up to 4 leaves) Knotgrass (To 2 leaves)	From two leaf stage of the crop (GS12) to before flag leaf sheath extending stage (GS41)	0.75 l/ha
Spring Oats	Cleavers (Up to 10 cm) Common chickweed (Up to 10 cm) Black bindweed (Up to 4 leaves) Knotgrass (To 2 leaves)	From two leaf stage of the crop (GS12) to before second node detectable stage. (Before GS32)	0.75 l/ha

1- HBN's are products containing bromoxynil

FORAGE AND GRAIN MAIZE

Weeds Controlled: Broad-leaved weeds
Crops: Forage and grain maize

Crop	Weeds controlled and latest stage of control	Time of Application for Crop	Application Rate
Forage and Grain Maize	Black nightshade (cotyledons – 6 true leaves	From 3-6 leaves unfolded and before the crop is 20 cm (8") high and before any buttress roots start to develop at the first node. DO NOT apply to forage and grain maize beyond the recommended growth stages or in a tank mix with any other product	1 l/ha

Apply as a MEDIUM spray at 2 – 2.5 bar (30-35 psi) by conventional hydraulic ground-operated sprayer in 150-400 l/ha water to give good coverage of the target weeds, increase the spray volume to 300-400 l/ha water when treating volunteer potatoes. Use the higher spray volume for application in dense crops or when weeds are large or have become hardened. Apply to dry foliage.

Grassland

GRASSLAND

Weeds Controlled: Annual and perennial broad-leaved weeds
Crops: Grassland
Other Specific Information: Newly sown and established grass leys and permanent pasture may be treated with TANDUS for the control of annual and perennial broad-leaved weeds
Do not spray swards containing clovers or other legumes if these are important constituents of the sward

Crop	Weeds controlled and latest stage of control	Time of Application for Crop	Application Rate
Newly sown grass leys	Common chickweed (to 5 cm)	In early autumn when the grasses are firmly established and are tillering and the weeds are growing actively.	0.75 l/ha
Established Grassland	Pre flowering weeds of: Broad leaved dock Common nettle (reduction of top-growth)	Broad leaved dock: normally in spring at the rosette stage, but may be applied 14-21 days after cuttingwhen the weed foliage has re-grown. Repeat if necessary the following year Common nettle: up to mid-June when actively growing	2 l/ha in 300-400 l/ha water For spot treatment use 30 ml product per 10 L water

Where ragwort is present users should consult the Code of Practice on How to Prevent the Spread of Ragwort. Ragwort plants sprayed with this herbicide are more palatable with higher levels of toxins. Animals should be excluded from treated areas until any ragwort has completely recovered or died and there is no visual sign of the dead weed. Do not include treated ragwort in hay or silage crops.

Apply as a MEDIUM spray at 2 – 2.5 bar (30-35 psi) by conventional hydraulic ground-operated sprayer in 150-400 l/ha water using a minimum 300 l/ha on established grassland, to give good coverage of the target weeds. Use the higher spray volume for application in dense crops or when weeds are large. When overall spraying is not justified, small weed infested areas or individual weeds may conveniently be spot treated by knapsack sprayer or hand lance connected to powered conventional hydraulic sprayer. Preferably use a flood jet to avoid spray drift. Spray to just wet the weed foliage evenly but before run-off occurs.

WEATHER AND GROWING CONDITIONS
Optimum results with TANDUS can only be achieved when weeds are actively growing under good soil and weather conditions and the crop is vigorously competitive. These conditions are especially important if cleavers are to be controlled, more so if TANDUS is to be applied alone in cereals without the benefit of a product in tank-mixture giving complementary activity on cleavers. Do not apply TANDUS during periods of cold nights or if frost is forecast.

CULTIVATIONS
Do not roll or harrow cops within seven days of treatment with TANDUS

UNDERSOWN CROPS
Do not use TANDUS on crops undersown with clovers or other legumes. TANDUS may be used on crops undersown with grasses only provided these are firmly established and are tillering.

APPLICATION (BCPC DEFINITIONS)
Apply to dry foliage. Do not spray if rain is imminent. Avoid spray drift onto nearby crops or areas. Avoid overlapping spray swaths. Apply as a MEDIUM spray at 2 – 2.5 bar (30-35 psi) by conventional hydraulic ground-operated sprayer
Do not use on crops grown for seed production.

COMPATABILITY
For up to date details of compatible tank mixes please contact your Nufarm technical representative or refer to the Nufarm website at www.nufarm.com/uk

RESIDUES
Do not sow peas, beans, clovers or any legume for 12 months on land treated with TANDUS at 2 l/ha. All manure or crop residues derived from crops treated with TANDUS at 2 l/ha must be returned to grassland or land to be cropped with cereals
All straw from crops treated a 2 l/ha must not be incorporated back into the soil.
Where TANDUS is applied at less than 2.0 l/ha in the event of a cereal crop failure the following crops can be sown: Spring cereals, spring oilseed rape, maize, onion, cultivated poppies and new leys. A minimum interval of 5 weeks is required and there are no cultivation restrictions. Any crop can be sown following normal harvest'.

CARE OF THE SPRAYER
Directly after each days use with TANDUS, wash out the sprayer thoroughly with clean water and a wetting agent recommended for the cleaning of sprayers. Traces of fluroxpyr left in the sprayer may damage susceptible crops when the equipment is subsequently used.

MIXING
Pour the required quantity of TANDUS into the spray tank already half-filled with water and under agitation. Top up the spray tank with water to the required level. Maintain agitation during spraying and until the tank is sprayed out.
RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling and dispose of container safely.

Knapsack Rate Estimator		
Using standard nozzles appropriately calibrated, each litre of mixture will treat 33m^2 (300L/ha water). The rate of product applied using a knapsack sprayer must be equivalent to the application rates authorised in the "Direction for use" section of the label.		
Tandus Recommendation	**Quantity of Tandus required per 10 litres to treat 330 m^2**	**Area of use**
2 l/ha in 150 – 400 l/ha water	30 ml	Established grassland to control Pre-flowering weeds of: Broad-leaved dock Common nettle (Reduction of top growth)

COMPANY ADVISORY INFORMATION

This section is not part of the Product Label under the Plant Protection Product Regulations 2011. It provides additional advice on product use at the discretion of Nufarm.

ACKNOWLEDGEMENTS

TERMS AND CONDITIONS OF SUPPLY, SALE OR USE

All goods supplied by Nufarm UK Ltd. are high grade and we believe them to be suitable for the purpose for which we expressly supply them: but as we cannot exercise any control over their mixing, use or application which may affect the performance of the goods all conditions and warranties statutory or otherwise as to the quality or fitness for any purpose of our goods are excluded and no responsibility will be accepted by us or our. Associate. Companies for any damage or injury whatsoever arising from their storage, handling, re-application or use. These conditions cannot be varied by our staff, our agents or the re-sellers of the product whether or not they supervise or assist in the use of such goods.

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1. Product identifier

Trade name: Tandus

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

Use: Herbicide

1.3. Details of the supplier of the safety data sheet

Nufarm UK Limited, Wyke Lane, Wyke, Bradford, West Yorkshire BD12 9EJ
United Kingdom
Telephone: +44 (0)1274 691234 Telefax: +44 (0)1274 691176
E-mail address: infouk@uk.nufarm.com

1.4. Emergency telephone number: +44 (0)1274 696603

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

EG_1272/08 :	Flam. Liq. 3	H226 - Flammable liquid and vapour.
	Skin Irrit. 2	H315 - Causes skin irritation.
	Skin Sens. 1	H317 - May cause an allergic skin reaction.
	Eye Irrit. 2	H319 - Causes serious eye irritation.
	STOT_SE 3	H335 - May cause respiratory irritation.
	STOT_SE 3	H336 - May cause drowsiness or dizziness.
	Asp. Tox. 1	H304 - May be fatal if swallowed and enters airways.
	Aquatic Acute 1	H400 - Very toxic to aquatic life.
	Aquatic Chronic 1	H410 - Very toxic to aquatic life with long lasting effects.

2.2. Label elements

REGULATION (EC) No 1272/2008

Pictogram:

Signal word: Danger

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.
H319	-	Causes serious eye irritation.
H335	-	May cause respiratory irritation.
H336	-	May cause drowsiness or dizziness.
H410	-	Very toxic to aquatic life with long lasting effects.
EUH401	-	To avoid risks to human health and the environment, comply with the instructions for use.
EUH001	-	Explosive when dry.
P210	-	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	-	Avoid breathing vapours or spray.
P264	-	Wash hands and face thoroughly after handling.
P271	-	Use only outdoors or in a well-ventilated area.
P272	-	Contaminated work clothing should not be allowed out of the workplace.
P280	-	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P310	-	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P303+P361+P353	-	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P370+P378	-	In case of fire: Use dry chemical powder, carbon dioxide, sand, foam, to extinguish. Avoid water with full waterjet.
P501	-	Dispose of contents/ container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non hazardous waste.

2.3. Other hazards

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components:

Hydrocarbons, C9, Aromatic
CAS-No.:
EINECS-No. / ELINCS No.: 918-668-5
REACH No.:
Concentration: 60% - 100% (w/w)

Classification:

EG_1272/08 :	Flam.Liq.3	H226 - Flammable liquid and vapour.
	Asp.Tox.1	H304 - May be fatal if swallowed and enters airways.
	STOT_SE3	H335 - May cause respiratory irritation.
	STOT_SE3	H336 - May cause drowsiness or dizziness.
	AquaticChronic2	H411 - Toxic to aquatic life with long lasting effects.

fluroxypyr-meptyl
CAS-No.: 81406-37-3
EINECS-No. / ELINCS No.: 279-752-9
REACH No.:
Concentration: 10% - 30.0 % (w/w)

Classification:

EG_1272/08 :	Aquatic Acute 1	H400 - Very toxic to aquatic life.
	Aquatic Chronic 1	H410 - Very toxic to aquatic life with long lasting effects.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts

CAS-No.:		68953-96-8
EINECS-No. / ELINCS No.:		273-234-6
REACH No.:		01-2119964467-24
Concentration:		1% - 5 % (w/w)
Classification:		
EG_1272/08 :	n.c. - This chemical substance is not classified in the Annex VI of Regulation (EC) No 1272/2008.	
REACH :	Acute Tox. 4	H312 - Very toxic to aquatic life.
	Skin Irrit. 2	H315 - Causes skin irritation.
	Eye Dam. 1	H318 - Causes serious eye damage.
	Aquatic Chronic 2	H411 - Toxic to aquatic life with long lasting effects.

n-Butanol

CAS-No.:		71-36-3
EINECS-No. / ELINCS No.:		200-751-6
REACH No.:		01-2119484630-38
Concentration:		0% - 1% (w/w)
Classification:		
EG_1272/08 :	Flam. Liq. 3	H226 - Flammable liquid and vapour.
	Acute Tox. 4	H302 - Harmful if swallowed.
	STOT_SE 3	H335 - May cause respiratory irritation.
	Skin Irrit. 2	H315 - Causes skin irritation.
	Eye Dam. 1	H318 - Causes serious eye damage.
	STOT_SE 3	H336 - May cause drowsiness or dizziness.

4. FIRST AID MEASURES

4.1. Description of first aid measures

General advice:
Move affected person(s) into fresh air. Victim to lie down in the recovery position, cover and keep him warm. Show this safety data sheet to the doctor in attendance. Watch victim for several hours because of possible delayed signs of poisoning.

Eye contact:
Immediate medical attention is required. Remove contact lenses. Keep eye wide open while rinsing. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin contact:
Take off all contaminated clothing immediately. Wash off with soap and water. Immediate medical attention is required.

Inhalation:
Move out of dangerous area. Move affected person(s) into fresh air. Keep warm No special precautions required. If symptoms persist, call a physician.

Ingestion:
Immediate medical attention is required. Keep patient warm and at rest. Rinse mouth with water. Watch victim for several hours because of possible delayed signs of poisoning. Do NOT induce vomiting.

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

Symptoms: cough, dizziness, drowsiness, Vertigo, Irritating to eyes., Irritating to respiratory system., stomach pains, Aspiration: pulmonary oedema, pneumonia, Allergic reactions.

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

Treatment: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, Carbon dioxide (CO2), Dry powder, Water mist.
Extinguishing media which shall not be used for safety reasons: Water spray jet.

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting: Do not use a solid water stream as it may scatter and spread fire.

5.3. Advice for firefighters

Special protective equipment for fire-fighters: Wear self contained breathing apparatus for fire fighting if necessary.
Further information: In the event of fire and/or explosion do not breathe fumes. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Do not allow run-off from fire fighting to enter drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

(see Chapter 8) Mark out the contaminated area with signs and prevent access to unauthorised personnel. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Try to prevent the material from entering drains or water courses.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up: Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4. Reference to other sections

see Chapter 13

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice: Do not breathe vapours or spray mist. Avoid contact with skin and eyes. Protect from frost.
Advice on protection against fire and explosion: Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Protect against light. Protect from frost.
Advice on common storage: Keep away from food, drink and animal feeding stuffs.
German storage class: 3 (Flammable Liquids)

7.3. Specific end use(s)
none

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
Components with workplace control parameters
(EH40/2005 Workplace exposure limits)

Components	CAS-No.	National occupational exposure limits	Note
Hydrocarbons, C9, Aromatic			no classification available
Fluroxypyr-meptyl	81406-37-3		no classification available
Benzenesulfonic acid, mono-C11-C13-branched alkyl derivs., calcium salts	68953-96-8		no classification available
n-Butanol	71-36-3	154 mg/m³	Short-term exposure limit

8.2. Exposure controls

Personal protective equipment
Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment.
Hand protection: Protective gloves, Glove material, Nitrile rubber.
Eye protection: Tightly fitting safety goggles.
Skin and body protection: Wear suitable protective equipment., Wear suitable coveralls to prevent exposure to the skin.
Hygiene measures: When using, do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. Avoid contact with the skin and the eyes.
Protective measures: Avoid contact with skin and eyes and inhalation of vapours.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance
Physical state: liquid
Form: Emulsifiable concentrate (EC)
Colour: yellowish
Odour: hydrocarbon-like
Flash point: 48°C (closed cup)
Density: 0.96 g/cm³ at 20 °C
Bulk density: no data available
pH: 4.4 - 6.1 (as aqueous solution)
Partition coefficient: n-octanol/water: no data available
Viscosity, dynamic: 2.8 mPa.s at 20 °C - 2 mPa.s at 40 °C

9.2. Other information
none

10. STABILITY AND REACTIVITY

10.1. Reactivity
Stable under recommended storage conditions.

10.2. Chemical stability
Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid
Keep away from heat and sources of ignition., high temperatures, Exposure to sunlight.

10.5. Incompatible materials to avoid
Oxidizing agents

10.6. Hazardous decomposition products
No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute oral toxicity :	Remarks: Based on available data, the classification criteria are not met.
Acute dermal toxicity :	Dose: 45,862 mg/kg
Acute inhalation toxicity :	LC50 Exposure time: 96 h Dose: 31 mg/l Remarks: Based on available data, the classification criteria are not met.
Skin irritation :	Remarks: Irritating to skin. May cause an allergic skin reaction
Eye irritation :	Remarks: Irritating to eyes and respiratory system.
Sensitisation :	Remarks: May cause sensitization of susceptible persons by skin contact.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Toxicity to fish :	LC50 Toxicity to fish Dose: 31 mg/l Testing period: 96 h
Toxicity to daphnia :	LC50 Daphnia magna (Water flea) Dose: 10.9 mg/l Testing period: 48 h
Toxicity to algae :	LC50 Toxicity to algae Dose: 26.6 mg/l Exposure time: 72 h

12.2. Persistence and degradability

Biodegradability : no data available.
Biochemical Oxygen Demand (BOD) : Remarks: no data available
Additional advice : no data available

12.3. Potential bioaccumulation

Bioaccumulation : No data available.

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

12.6. Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

According to European Directive 2000/532/EC as amended :
Waste Code: 02 01 08 (agrochemical waste containing dangerous substances)

13.1. Waste treatment methods

Product: Dispose of product and packaging in accordance with the "Code of practice for using plant protection products". A DEFRA publication

Contaminated packaging: Triple rinse containers. Dispose of product and packaging in accordance with the "Code of practice for using plant protection products". A DEFRA publication

14. TRANSPORT INFORMATION

14.1. UN number

UN1993

14.2. Proper shipping name

UN1993 Flammable liquid, n.o.s.(Hydrocarbons, mixture)

14.3. Transport hazard class(es)

ADR/RID : Class	3
IATA-DGR : Class:	3
IMDG : Class:	3

14.4. Packaging group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

ADR/RID Marine Pollutant	Y
IATA-DGR Marine Pollutant	Y
IMDG Marine Pollutant	Y

14.6. Special precautions for user

ADR Transport Category	3
Tunnel Restriction Code	(D/E)

15. REGULATORY INFORMATION

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

Other regulations : Restricted to professional users., The product is classified and labelled in accordance with EC directives or respective national laws.

15.2. Chemical Safety Assessment

none

16. OTHER INFORMATION

Print Date: 2017/04/27
The date format YYYY/MM/DD is used according to ISO 8601.
(Alterations are indicated in the left hand margin by: ||)
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