

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

1.1. Product identifier

CA Code (Nufarm)	: 2526
Product code	: NLI2052
Oracle Recipe Code (Nufarm)	: 600000352
Item codes	: 100008351;100008488;100009421;100009466
Product form	: Mixture
Trade name	: Kyleo
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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Serious eye damage/eye irritation, Category 2	H319
Skin sensitisation, Category 1	H317
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Hazardous to the aquatic environment — Chronic Hazard, Category 1	H410

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

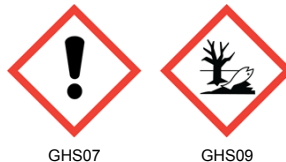
Adverse physicochemical, human health and environmental effects

Causes serious eye irritation. May cause an allergic skin reaction. Very toxic to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP)	: Warning
Hazardous ingredients	: 2,4-D & Glyphosate Amine Salts
Hazard statements (CLP)	: H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P101 - If medical advice is needed, have product container or label at hand.

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	P102 - Keep out of reach of children. P261 - Avoid breathing spray, mist, vapours. P270 - Do not eat, drink or smoke when using this product. P391 - Collect spillage. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
EUH-statements	: EUH401 - To avoid risks to human health and the environment, comply with the instructions for use.

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]
2,4-D COCO AMINO PROPYL DMA	(CAS-No.) 1263319-17-0 (EC-No.) 934-143-3	32	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Glyphosate isopropylamine salt	(CAS-No.) 38641-94-0 (EC-No.) 254-056-8	27.9	Aquatic Chronic 2, H411

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	: Move victim to fresh air.
First-aid measures after skin contact	: Wash off immediately with soap and plenty of water. Take off contaminated clothing. If symptoms persist, call a physician.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. If swallowed, seek medical advice immediately and show this container or label.

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

Symptoms/effects	: Sweating. Headache. Feeling of weakness. Diarrhea. Nausea. Abdominal cramps. Cardiac disorders. Blurred vision. Coma. Circulatory collapse.
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Sand. 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	: Toxic fumes may be released. Hydrogen chloride. Chlorine. Nitrogen oxides. Carbon monoxide. Carbon dioxide.
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5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire.
Protection during firefighting	: Wear recommended personal protective equipment. Use self-contained breathing apparatus and chemically protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Refer to chapter 8.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing mist.

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

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel). Mechanically recover the product.

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 : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Avoid breathing mist. Wear personal protective equipment.

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 in original container. Store at room temperature.

Storage temperature : > 0 °C

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

No additional information available

8.2. Exposure controls

Personal protective equipment:

Gloves. Protective clothing. Safety glasses.

Materials for protective clothing:

According to the conditions of use, protective gloves, apron, boots, head and face protection must be worn

Hand protection:

Wear gloves according to EN374 resistant to the solvent(s) in use.

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

Respiratory protection:

This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used

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Other information:

Take off contaminated clothes. Wash contaminated clothing before reuse. Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Yellow.
Odour	: odourless.
Odour threshold	: No data available
pH	: 4.4 - 4.8
pH solution concentration	: 10 g/l
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: ≈ 100 °C
Flash point	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 2,4-D <1.9E-05 Pa @25°C; Glyphosate 1.3E-05 Pa@25°C
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.16 - 1.17 g/cm ³
Solubility	: No data available
Log Pow	: 0.57
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 277 mPa·s 20°C
Viscosity, dynamic	: 97 mPa·s 40°C
Explosive properties	: Not explosive.
Oxidising properties	: Non oxidizing.
Explosive limits	: 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

No decomposition if stored normally.

10.5. Incompatible materials

Strong bases.

10.6. Hazardous decomposition products

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

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Kyleo	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LD50 dermal	>
LC50 inhalation rat (mg/l)	Not applicable

2,4-D COCO AMINO PROPYL DMA (1263319-17-0)

LD50 dermal rat	>
LD50 dermal	>

Glyphosate isopropylamine salt (38641-94-0)

LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 5000 mg/kg

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified (No skin irritation) pH: 4.4 - 4.8
Additional information	: rabbit
Serious eye damage/irritation	: mild eye irritation pH: 4.4 - 4.8
Additional information	: rabbit
Respiratory or skin sensitisation	: Skin sensitisation
Additional information	: Guinea pig
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity	: Very toxic to aquatic life.
Chronic aquatic toxicity	: Very toxic to aquatic life with long lasting effects.

Kyleo	
LC50 96h fish	3.2 mg/l <i>Oncorhynchus mykiss</i> (Rainbow trout)
EC50 other aquatic organisms 1	2.5 mg/l <i>Daphnia magna</i> (Water flea)
EC50 72h algae	1.28 mg/l <i>Scenedesmus subspicatus</i>
NOEC chronic algae	0.1 mg/l <i>Scenedesmus subspicatus</i>

Additional ecotoxicological information

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Kyleo	
Toxicity to algae:	
EbC50 Scenedesmus subspicatus Dose: 0.43 mg/l Exposure time: 72 h	
ErC50 Lemna minor Dose: 2.7 g/l Exposure time: 7 d	
EC50 Lemna minor Dose: 1.1 mg/l Exposure time: 7 d	
NOEC Lemna minor Dose: 0.1 mg/l Exposure time: 7 d	
NOEAEC Lemna gibba Dose: 3.2 mg/l Exposure time: 7 d	

2,4-D COCO AMINO PROPYL DMA (1263319-17-0)	
LC50 96h fish	>
EC50 other aquatic organisms 1	>

Glyphosate isopropylamine salt (38641-94-0)	
LC50 96h fish	> 1000 mg/l
EC50 48h crustacea	980 mg/l
EC50 72h algae	72.9 mg/l
Additional ecotoxicological information	
Birds LD50: > 2.000 mg/kg Test substance: (Glyphosate)	
Apis mellifera (Honey bee) LD50: > 100 µg/bee, contact. Test substance: (Glyphosate)	
Apis mellifera (Honey bee) LD50: > 100 µg/bee, oral. Test substance: (Glyphosate)	

12.2. Persistence and degradability

Kyleo	
Persistence and degradability	Not readily biodegradable.
Glyphosate isopropylamine salt (38641-94-0)	
Persistence and degradability	Not readily biodegradable, according to appropriate OECD test due to properties of several components.
Biodegradation	DT50 24h (water); 1.041h (soil)

12.3. Bioaccumulative potential

Kyleo	
Log Pow	0.57
Glyphosate isopropylamine salt (38641-94-0)	
Log Pow	< -3.2 glyphosate (ISO); N-(phosphonomethyl)glycine

12.4. Mobility in soil

Kyleo	
Surface tension	23.6 20°C
Koc	884 - 60000 (Glyphosate)

12.5. Results of PBT and vPvB assessment

Kyleo	
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

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.

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Product/Packaging disposal recommendations : Do not re-use empty containers. Clean container with water.
 European List of Waste (LoW) code : 02 01 08* - agrochemical waste containing dangerous substances

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. (2,4-D, Glyphosate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D, Glyphosate)	Environmentally hazardous substance, liquid, n.o.s. (2,4-D, Glyphosate)
Transport document description		
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D, Glyphosate), 9, III, (-)	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-D, Glyphosate), 9, III, MARINE POLLUTANT	UN 3082 Environmentally hazardous substance, liquid, n.o.s. (2,4-D, Glyphosate), 9, III
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

- 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 :



Tunnel restriction code (ADR) : -
 EAC code : •3Z

- Transport by sea

Special provisions (IMDG) : 274, 335, 969

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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
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

Other information, restriction and prohibition regulations : WGK Germany: 3 - Severe hazard to waters.

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 (Oral)	Acute toxicity (oral), 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
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.

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H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

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