



SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Kyleo SL
Version 5 (Georgia)

Issuing date: 2015/01/08

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name : **Kyleo SL**

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

Use : Plant Protection Product, Herbicide

1.3. Details of the supplier of the safety data sheet

Nufarm GmbH & Co KG
St.-Peter-Str. 25
A-4021 Linz
Austria
Telephone: +43/732/6918-3187
Telefax: +43/732/6918-63187
E-mail address: Katharina.Krueger@at.nufarm.com

1.4. Emergency telephone number

+43/732/6914-2466 (Linz/Austria production site)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

EG_1272/08 :	SkinSens.1	H317 - May cause an allergic skin reaction.
	Eyelrrit.2	H319 - Causes serious eye irritation.
	AquaticAcute1	H400 - Very toxic to aquatic life.
	AquaticChronic1	H410 - Very toxic to aquatic life with long lasting effects.
EEC/99/45 :	-	R43 - May cause sensitization by skin contact.
	N	R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

REGULATION (EC) No 1272/2008

Pictogram:



GHS07



GHS09

Signal word: Warning

- H317 - May cause an allergic skin reaction.
 H319 - Causes serious eye irritation.
 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.

- P264 - Wash hands thoroughly after handling.
 P261 - Avoid breathing spray.
 P272 - Contaminated work clothing should not be allowed out of the workplace.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P391 - Collect spillage.
 P501 - Dispose of contents/ container to an approved waste disposal plant.
 P363 - Wash contaminated clothing before reuse.
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention.
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337 + P313 - If eye irritation persists: Get medical advice/ attention.

2.3. Other hazards

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Aqueous solution of isopropylammonium and Dimethylammonium derivative salts
 2,4-D 160 g/l, Glyphosate 240 g/l

3.2. Mixtures

Components:

2,4-D DMA derivate
 CAS-No.: 1263319-17-0



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EINECS-No. / ELINCS No.: 934-143-3
REACH No.:
Concentration: 32,0 % (w/w)

Classification:

EG_1272/08 :	AcuteTox.4	H302 - Harmful if swallowed.
	EyeDam.1	H318 - Causes serious eye damage.
	SkinSens.1	H317 - May cause an allergic skin reaction.
	AquaticChronic2	H411 - Toxic to aquatic life with long lasting effects.
EEC/67/548 :	Xn	R22 - Harmful if swallowed.
	Xi	R41 - Risk of serious damage to eyes.
		R43 - May cause sensitization by skin contact.
	N	R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Glyphosate IPA salt

CAS-No.: 38641-94-0
EINECS-No. / ELINCS No.: 254-056-8
REACH No.:
Concentration: 27,9 % (w/w)

Classification:

EG_1272/08 :	AquaticChronic2	H411 - Toxic to aquatic life with long lasting effects.
EEC/67/548 :	N	R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

Inhalation : Move to fresh air.

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 : sweating, headache, weakness, Diarrhoea, anorexia, Nausea, Salivation, stomach pains, Blurred vision, muscle twitching, Convulsions, loss of reflex, heart and circulatory collaps, Coma

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

Treatment : No specific antidote, symptomatic treatment. As the elimination occurs via the kidneys a dialyse is appropriate. Control of water



and electrolytes balance. If ingested, irrigate the stomach.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media : Water spray, Dry powder, Sand, Foam, Carbon dioxide (CO₂)

Extinguishing media which shall not be used for safety reasons : High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting : In the event of fire (HCl, Cl₂, NO_x, CO) may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters : Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

Further Information : Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. (see Chapter 8)

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Use mechanical handling equipment.

Additional advice : Never return spills in original containers for re-use.

6.4. Reference to other sections

see Chapter 13



SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Safe handling advice : Wear personal protective equipment. Keep out of the reach of children.
- 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 : Store at room temperature in the original container.
- Advice on common storage : Keep away from food, drink and animal feeding stuffs.
- Storage stability**
- Storage temperature : > 0 °C

7.3. Specific end use(s)

none

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Components with workplace control parameters
none

8.2. Exposure controls

Personal protective equipment

- Respiratory protection : Suitable respiratory protection for higher concentrations or long-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).
- Hand protection : Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other
- Eye protection : Safety glasses with side-shields (frame goggles) (e.g. EN 166)



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- Skin and body protection : Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).
- Hygiene measures : Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.
- Protective measures : The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance

- Physical state : liquid
- Form : Soluble concentrate
- Colour : yellow
- Odour : odourless
- Melting point/range : no data available
- Boiling point/boiling range : ca.100 °C
Aqueous solution
- Flash point : (closed cup)
Method: 92/69/EEC A9
does not flash
- Ignition temperature : no data available
- Upper explosion limit : no data available
- Lower explosion limit : no data available
- Vapour pressure : <1,9E-05 Pa
at 25 °C
(2,4-D)



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		1,3E-05 Pa at 25 °C Method: 92/69/EEC A4 (Glyphosate)
Density	:	1,16 g/cm ³ at 20 °C
pH	:	5 - 5,8 at (20 °C)
		4,4 - 4,8 at 10 g/l (20 °C)
Partition coefficient: n-octanol/water	:	log POW = 0,57
Dissociation constant	:	pKa= 2,64 (2,4-D)
		pKa1= 2,34 (Glyphosate)
		pKa2= 5,73 (Glyphosate)
		pKa3= 10,2 (Glyphosate)
Viscosity, dynamic	:	277 mPa.s at 20 °C Method: OECD 114
		97 mPa.s at 40 °C Method: OECD 114
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Explosive properties	:	Not explosive
Surface tension	:	23,6 mN/m at 20 °C



9.2. Other information

none

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

no data available

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

No decomposition if stored and applied as directed.

10.5. Incompatible materials to avoid

Strong bases

10.6. Hazardous decomposition products

no data available

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute oral toxicity : LD50 rat
Dose: > 2.000 mg/kg

Acute dermal toxicity : LD50 rat
Dose: > 2.000 mg/kg

Acute inhalation toxicity : Remarks: not applicable

Skin irritation : rabbit
Result: No skin irritation



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Eye irritation : rabbit
Result: Moderate eye irritation

Sensitisation : guinea pig
Result: Causes sensitization.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Toxicity to fish : LC50 *Oncorhynchus mykiss* (rainbow trout)
Dose: 3,2 mg/l
Testing period: 96 h

Toxicity to daphnia : EC50 *Daphnia magna* (Water flea)
Dose: 2,5 mg/l
Testing period: 48 h

Toxicity to algae : static test ErC50 *Scenedesmus subspicatus*
Dose: 1,28 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

EbC50 *Scenedesmus subspicatus*
Dose: 0,43 mg/l
Exposure time: 72 h

NOEC *Scenedesmus subspicatus*
Dose: 0,1 mg/l

ErC50 *Lemna minor* (duckweed)
Dose: 2,7 mg/l
Exposure time: 7 d

EC50 *Lemna minor* (duckweed)
Dose: 1,1 mg/l
Exposure time: 7 d

NOEC *Lemna minor* (duckweed)
Dose: 0,1 mg/l
Exposure time: 7 d



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NOEAEC Lemna gibba (Duckweed)

Dose: 3,2 mg/l

Exposure time: 7 d

12.2. Persistence and degradability

Biodegradability : Not readily biodegradable.
Test substance: (Glyphosate)

12.3. Potential bioaccumulation

Bioaccumulation : no data available

12.4. Mobility in soil

Koc = 884 - 60'000 (Glyphosate)
Kfoc = 12 - 42; 1/n = 0.81 - 0.90 (2,4-D)

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

none

SECTION 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 : In accordance with local and national regulations.

Contaminated packaging : Do not re-use empty containers.

Dispose empty and triple rinsed container within a local disposing system according to EC directive 94/62/EC



SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN3082

14.2. Proper shipping name

UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.*(2,4-D, Glyphosate)

14.3. Transport hazard class(es)

ADR/RID :
Class : 9

IMDG :
Class : 9

IATA-DGR :
Class : 9

14.4. Packaging group

ADR/RID : III

IMDG : III

IATA-DGR : III

14.5. Environmental hazards

IMDG
Marine Pollutant : MP

14.6. Special precautions for user

none

SECTION 15: REGULATORY INFORMATION

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



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Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.

15.2. Chemical Safety Assessment

none

SECTION 16: OTHER INFORMATION

Print Date : 2015/10/14

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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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