

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

1.1. Product identifier

Trade name	: KLINI
Product form	: Mixture
Type (Nufarm)	: Country Specific
Country (Nufarm)	: Georgia
CA Code (Nufarm)	: 2705
Product code	: NLI1999
Oracle Recipe Code (Nufarm)	: 600000343;600000687;600000412
Item codes	: 110004616;110004617;110004618

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 GmbH & Co KG
St.-Peter-Str. 25
4021 Linz - Austria
T +43/732/6918-3187 - F +43/732/6918-63187
Katharina.Krueger@nufarm.com

1.4. Emergency telephone number

Emergency number	: +43/732/6914-2466 (Produktionsstandort Linz/Österreich) +43/1/4064343 (VergiftungsInformationsZentrale)
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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]

Hazardous to the aquatic environment – Chronic Hazard, Category 2 H411

Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

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

Hazard pictograms (CLP)



GHS09

Signal word (CLP)

: -

Hazard statements (CLP)

: H411 - Toxic to aquatic life with long lasting effects.

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Precautionary statements (CLP)	: P273 - Avoid release to the environment. 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

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

Component

Glyphosate isopropylamine salt (38641-94-0)	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
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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]
Glyphosate isopropylamine salt	(CAS-No.) 38641-94-0 (EC-No.) 254-056-8	40 – 45	Aquatic Chronic 2, H411
D-GLUCOPYRANOSE, OLIGOMERS, MONOSULFOSUCCINATE, COCO ALKYL GLYCOSIDES, SODIUM SALT	(CAS-No.) 151911-53-4	4 - 6	Eye Irrit. 2, H319

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Allow affected person to breathe fresh air. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: Wash off immediately with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Immediately rinse with water for a prolonged period while holding the eyelids wide open. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. 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	: Diarrhea. Cardiac disorders. May cause stomach cramps and vomiting.
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4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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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 : Nitrogen oxides. Carbon monoxide. Carbon dioxide. Phosphorous oxide.

5.3. Advice for firefighters

Protection during firefighting : Use self-contained breathing apparatus and chemically 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). Do not discharge into drains or 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 allow to enter drains or water courses.

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 : Wear personal protective equipment. Keep out of the reach of children.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container.
Storage temperature : > 0 °C
Information on mixed storage : Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Minimise exposure using measures such as contained and enclosed systems, properly designed and maintained dedicated facilities and suitable general/local exhaust ventilation.

8.2.2. Personal protection equipment

Personal protective equipment:

The recommendations in this section are for employees in manufacturing, formulations and conditioning. For farm users and handlers, please read the product label for suitable personnel protective equipment and apparatus.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:			
Type	Field of application	Characteristics	Standard
Safety glasses, Safety goggles		With side shields	EN 166

8.2.2.2. Skin protection

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

Hand protection:					
Wear suitable gloves resistant to chemical penetration					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.4		EN ISO 374-1/A1 , EN 16523+A1 (type A)
Reusable gloves	Chloroprene rubber (CR)	6 (> 480 minutes)	0.5		EN ISO 374-1/A1 , EN 16523+A1 (type A)

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Reusable gloves	Butyl rubber	6 (> 480 minutes)	0.7		EN ISO 374-1/A1 , EN 16523+A1 (type A)
Disposable gloves					EN ISO 374-1/A1 , EN ISO 374-2 (A,B, or C type)

Other skin protection

Materials for protective clothing:

Condition	Material	Standard
According to the conditions of use, protective gloves, apron, boots, head and face protection must be worn		EN 14605

8.2.2.3. Respiratory protection

Respiratory protection:

Users are advised to consider national Occupational Exposure Limits or other equivalent values. Ensure exposure is below occupational exposure limits (where available).

Device	Filter type	Condition	Standard
respirator with combination filter for vapour/particles	ABEK	In case of inadequate ventilation wear respiratory protection.	EN 14387

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Other information:

Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke during use. Keep away from children. Remove contaminated clothing. Separate working clothes from town clothes. Wash contaminated clothing before reuse. Wash hands immediately after handling the product. The wearing of PPE will have to be adapted to working conditions and any discomfort felt during the operation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: brown.
Appearance	: Aqueous solution.
Odour	: Amine-like.
Odour threshold	: Not available
Melting point	: -10 °C
Freezing point	: Not available
Boiling point	: > 100 °C
Flammability	: Not available
Explosive properties	: Not explosive.
Oxidising properties	: Non oxidizing.
Explosive limits	: Not available
Lower explosive limit (LEL)	: Not available
Upper explosive limit (UEL)	: Not available
Flash point	: > 115 °C
Auto-ignition temperature	: 505 °C
Decomposition temperature	: Not available
pH	: 4.7
Viscosity, kinematic	: 28.778 mm ² /s
Viscosity, dynamic	: 33.9 mPa.s @ 25°C

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Viscosity, dynamic	: 19.7 mPa.s @ 40°C
Solubility	: Water: > 10.5 g/l completely miscible
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: -3.2 @25°C (Glyphosate)
Vapour pressure	: 0.0131 mPa
Vapour pressure at 50 °C	: Not available
Density	: 1.178 g/cm ³ @ 20°C
Relative density	: Not available
Relative vapour density at 20 °C	: Not available
Particle size	: Not applicable
Particle size distribution	: Not applicable
Particle shape	: Not applicable
Particle aspect ratio	: Not applicable
Particle aggregation state	: Not applicable
Particle agglomeration state	: Not applicable
Particle specific surface area	: Not applicable
Particle dustiness	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

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 additional information available

10.5. Incompatible materials

Strong bases.

10.6. Hazardous decomposition products

Avoid temperature above 100 °C

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

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LD50 oral rat	> 2000 mg/kg
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LD50 dermal rat	> 4000 mg/kg
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Glyphosate isopropylamine salt (38641-94-0)

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

Skin corrosion/irritation	: Not classified (No skin irritation) pH: 4.7
Additional information	: rabbit
Serious eye damage/irritation	: Not classified (No eye irritation) pH: 4.7
Additional information	: rabbit
Respiratory or skin sensitisation	: Not classified (Did not cause sensitisation)
Additional information	: mouse
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified (The European Chemicals Agency (ECHA) as well as the European Food Safety Agency (EFSA) and other regulatory agencies around the world (EPA, APVMA, JMPR administered jointly by FAO and WHO) classified glyphosate as non-carcinogenic on a risk-based evaluation. The International Agency for Research on Cancer (IARC) classified glyphosate as "probably carcinogenic to humans" (Group 2A) on hazard-based evaluation. Both EFSA and ECHA considered in their respective review the IARC evaluation resulting in non-carcinogenic classification of glyphosate)
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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Viscosity, kinematic	28.778 mm ² /s
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11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

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.

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LC50 96h fish	> 100 mg/l <i>Oncorhynchus mykiss</i> (Rainbow trout)
EC50 - Other aquatic organisms [1]	> 100 mg/l <i>Daphnia magna</i> (Water flea)
NOEC (chronic)	100 mg/l <i>Oncorhynchus mykiss</i> (Rainbow trout)
NOEC chronic fish	1 mg/l (Glyphosate acid)
NOEC chronic crustacea	100 mg/l <i>Daphnia magna</i> (Water flea)
NOEC chronic algae	11.7 mg/l <i>Desmodesmus subspicatus</i> (green algae)

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Additional ecotoxicological information

Toxicity to algae:

EyC50 *Desmodesmus subspicatus* (green algae)

Dose: 28.8 mg/l

Exposure time: 72h

EbC50 *Desmodesmus subspicatus* (green algae)

Dose: 76.4 mg/l

Exposure time: 72h

EC50 *Lemna gibba* (Duckweed)

Dose: 16.6 mg/l

Exposure time: 7d

Glyphosate isopropylamine salt (38641-94-0)

LC50 96h fish	> 1000 mg/l
EC50 48h crustacea	930 mg/l
EC50 72h algae	72.9 mg/l
LD50, Birds	> 2000 mg/kg (tested substance : glyphosate)
LD50, Dermal, <i>Apis mellifera</i> (bee)	> 100 µg/bee (tested substance : glyphosate)
LD50, oral, <i>Apis mellifera</i> (bee)	> 100 µg/bee (tested substance : glyphosate)

12.2. Persistence and degradability

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Persistence and degradability Moderately biodegradable.

Glyphosate isopropylamine salt (38641-94-0)

Persistence and degradability	glyphosate (ISO); N-(phosphonomethyl)glycine. Not readily biodegradable.
Biodegradation	DT50 24h (water); 1.041h (soil)

12.3. Bioaccumulative potential

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Partition coefficient n-octanol/water (Log Pow)	-3.2 @25°C (Glyphosate)
Bioaccumulative potential	Bioaccumulation unlikely.

Glyphosate isopropylamine salt (38641-94-0)

Bioconcentration factor (BCF REACH)	3.16 Estimated
Partition coefficient n-octanol/water (Log Pow)	< -3.2 glyphosate (ISO); N-(phosphonomethyl)glycine

12.4. Mobility in soil

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Koc 884 (≥ 60000) (Glyphosate)

Glyphosate isopropylamine salt (38641-94-0)

Mobility in soil Constant of Henry's law (H): 1.82E-17 atm * m3 / mole; 25 ° C; Calculated

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12.5. Results of PBT and vPvB assessment

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

Component

Glyphosate isopropylamine salt (38641-94-0)

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. Endocrine disrupting properties

No additional information available

12.7. 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.

Waste treatment methods

: Dispose as hazardous waste. Do not remove as household garbage. Dispose of at authorized waste collection point.

Product/Packaging disposal recommendations

: Do not re-use empty containers. Do not dispose of the packaging without first carrying out the necessary cleaning.

SECTION 14: Transport information

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

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

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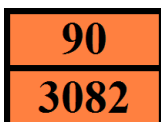
according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

14.4. Packing group				
III	III	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	Dangerous for the environment : 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
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

Inland waterway transport

Classification code (ADN) : M6
Special provisions (ADN) : 274, 335, 375, 601

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Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP
Number of blue cones/lights (ADN)	: 0

Rail transport

Classification code (RID)	: M6
Special provisions (RID)	: 274, 335, 375, 601
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Special packing provisions (RID)	: PP1
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4
Portable tank and bulk container special provisions (RID)	: TP1, TP29
Tank codes for RID tanks (RID)	: LGBV
Transport category (RID)	: 3
Special provisions for carriage – Packages (RID)	: W12
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW31
Colis express (express parcels) (RID)	: CE8
Hazard identification number (RID)	: 90

14.7. Maritime transport in bulk according to IMO instruments

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

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1)

Storage class (LGK, TRGS 510) : LGK 10 - Combustible liquids

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

15.2. Chemical safety assessment

None

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SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Comments
	Revision date	Modified	
	Supersedes	Modified	
15.1	Storage class (LGK)	Added	

Full text of H- and EUH-statements:

Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H319	Causes serious eye irritation.
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.