Sodium hydroxide 32% w/v AGR

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 09/01/2014 Revision date: 04/06/2026 Supersedes version of: 02/08/2022 Version: 3.3

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

1.1. Product identifier

Product form	:	Mixture
Name	:	Sodium hydroxide
Trade name	:	Sodium hydroxide 32% w/v AGR
EC Index-No.	:	011-002-00-6
EC-No.	:	215-185-5
CAS-No.	:	1310-73-2
Product code	:	SOHY-32A
Formula	:	HNaO

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

Relevant identified uses

Main use category	:	Laboratory use

1.3. Details of the supplier of the safety data sheet

Labbox Labware S.L.
Migjorn, 1
08338 Premia de Dalt, Barcelona
España
T +34 937 07 79 70, F +34 937 909 532
info@labbox.com, www.labbox.com

1.4. Emergency telephone number

Emergency number	:	+34 937 077 970 (For technical information_Office Hours) In case of medical emergency phone 112 or to your local emergency number. 24 hours a day, 7 days a week

Country/Area	Organisation	Emergency number
United Kingdom	National Poisons Information Service (Belfast Centre). Royal Victoria Hospital. Grosvenor Road BT12 6BA Belfast.	0344 892 0111 Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Corrosive to metals, Category 1	H290
Skin corrosion/irritation, Category 1, Sub-Category 1A	H314

Full text of H- and EUH-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) :



GHS05

Signal word (CLP) : Danger

Hazard statements (CLP) : H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P309+P311 - IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

Other hazards which do not result in classification : Does not contain PBT and/or vPvB substances ≥ 0.1% evaluated according to Annex XIII of REACH.

PBT: not relevant – no registration required
Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH 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 substance(s) are 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 %

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Sodium hydroxide	CAS-No.: 1310-73-2 EC-No.: 215-185-5 EC Index-No.: 011-002-00-6	25 – 50	Skin Corr. 1A, H314

Specific concentration limits:		
Name	**Product identifier**	**Specific concentration limits (%)**
Sodium hydroxide	CAS-No.: 1310-73-2 EC-No.: 215-185-5 EC Index-No.: 011-002-00-6	(0,5 ≤ C < 2) Eye Irrit. 2; H319 (0,5 ≤ C < 2) Skin Irrit. 2; H315 (2 ≤ C < 5) Skin Corr. 1B; H314 (5 ≤ C < 100) Skin Corr. 1A; H314

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 after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a physician immediately.

First-aid measures after skin contact : Gently wash with plenty of soap and water. Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact : Immediately rinse with water for a prolonged period while holding the eyelids wide open. Consult an eye specialist.

First-aid measures after ingestion : If the person is fully conscious, make him/her drink warm water (1/2 litre). Never give an unconscious person anything to drink. Call a physician immediately.

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

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after inhalation : May cause respiratory irritation.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Making extinguishing agents environment-friendly.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Non combustible.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire : Stop leak if safe to do so.

Protection during firefighting : Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Absorb spillage to prevent material damage. Do not inhale vapour. Avoid contact with skin and eyes.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

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. Store away from other materials.

6.4. Reference to other sections

See Section 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin, eyes and clothing.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed.

Storage area : Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)

Laboratory chemicals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

Sodium hydroxide 32% w/v AGR (1310-73-2)	
France - Occupational Exposure Limits	
Local name	Hydroxyde de sodium
VLEP 8h (OEL TWA)	2 mg/m³
Remark	Valeurs recommandées/admises
Portugal - Occupational Exposure Limits	
Local name	Hidróxido de sódio
OEL C	2 mg/m³
Spain - Occupational Exposure Limits	
Local name	Hidróxido de sodio
VLA-EC (OEL STEL)	2 mg/m³
United Kingdom - Occupational Exposure Limits	
Local name	Sodium hydroxide
WEL STEL (OEL STEL)	2 mg/m³

Sodium hydroxide (1310-73-2)	
Estonia - Occupational Exposure Limits	
Local name	Naatriumhüdroksiid
OEL TWA	1 mg/m³
OEL STEL	2 mg/m³ lühiajalise kokkupuute piirnorm, arvutatud viieminutisele kokkupuuteajale
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 02.04.2024, 13)
France - Occupational Exposure Limits	
Local name	Sodium (hydroxyde de) (Hydroxyde de sodium)
VLEP 8h (OEL TWA)	2 mg/m³
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 6443, 2022; Outil65)
Greece - Occupational Exposure Limits	
Local name	Υδροξείδιο του νατρίου
OEL TWA	2 mg/m³
OEL STEL	2 mg/m³
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Latvia - Occupational Exposure Limits	
Local name	Nātrija hidroksīds (nātrija sārms, kaustiskā soda)
OEL TWA	0,5 mg/m³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2024. gada 26. martā noteikumiem Nr. 191).
Lithuania - Occupational Exposure Limits	
Local name	Natrio hidroksidas
NRV (OEL C)	2 mg/m³
Remark	Ū (ūmus poveikis)

Sodium hydroxide (1310-73-2)	
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Portugal - Occupational Exposure Limits	
Local name	Hidróxido de sódio
OEL C	2 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
Spain - Occupational Exposure Limits	
Local name	Hidróxido de sodio
VLA-EC (OEL STEL)	2 mg/m³
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2026. INSHT
Sweden - Occupational Exposure Limits	
Local name	Natriumhydroxid
NGV (OEL TWA)	1 mg/m³ (inhalerbar fraktion)
KGV (OEL STEL)	2 mg/m³ (inhalerbar fraktion)
Remark	25 (Med inhalerbar och respirabel fraktion menas de dammfraktioner som definieras i svensk standard SS-EN 481, Arbetsplatsluft – Partikelstorleksfraktioner för mätning av luftburna partiklar (utgåva 1, 1993). Med totaldamm menas de partiklar (aerosoler) som fastnar på ett filter i en totaldammprovtagare)
Regulatory reference	Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön
United Kingdom - Occupational Exposure Limits	
Local name	Sodium hydroxide
WEL STEL (OEL STEL)	2 mg/m³
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Norway - Occupational Exposure Limits	
Local name	Natriumhydroksid
Takverdi (OEL C)	2 mg/m³
Regulatory reference	FOR-2025-12-18-2660

DNEL and PNEC

Sodium hydroxide 32% w/v AGR (1310-73-2)	
DNEL/DMEL (Workers)	
Long-term - local effects, inhalation	1 mg/m³
DNEL/DMEL (General population)	
Long-term - local effects, inhalation	1 mg/m³

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:
ISO 374-1.

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:
Safety glasses

Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Nitrile rubber (NBR) /

Respiratory protection

Respiratory protection:
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Colourless.
Molecular mass	:	40 g/mol
Odour	:	odourless.
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not available
Boiling point	:	100 °C
Flammability	:	Not available
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	> 13
Viscosity, kinematic	:	Not available
Solubility	:	Soluble.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	1,349 g/ml
Relative density	:	Not available
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

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 additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Acids.

10.6. Hazardous decomposition products

No additional information available

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

Sodium hydroxide 32% w/v AGR (1310-73-2)	
LD50 oral rat	500 mg/kg

Skin corrosion/irritation : Causes severe skin burns.
pH: > 13

Serious eye damage/irritation : Assumed to cause serious eye damage
pH: > 13

Respiratory or skin sensitisation : Not classified
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

11.2. Information on other hazards

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The product does not meet the criteria due to its endocrine-disrupting properties.

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) : Not classified

Sodium hydroxide 32% w/v AGR (1310-73-2)	
EC50 - Crustacea [1]	40,4 mg/l Test organisms (species): Ceriodaphnia sp.

Sodium hydroxide (1310-73-2)	
EC50 - Crustacea [1]	40,4 mg/l Test organisms (species): Ceriodaphnia sp.

12.2. Persistence and degradability

Sodium hydroxide 32% w/v AGR (1310-73-2)	
Persistence and degradability	Rapidly degradable

Sodium hydroxide (1310-73-2)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Sodium hydroxide 32% w/v AGR (1310-73-2)
PBT: not relevant – no registration required

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : 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 substance(s) are 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 %.

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Must follow special treatment according to local regulation.

SECTION 14: Transport information

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

14.1. UN number or ID number

UN-No. (ADR) : UN 1824
UN-No. (IMDG) : UN 1824
UN-No. (IATA) : UN 1824
UN-No. (ADN) : UN 1824
UN-No. (RID) : UN 1824

14.2. UN proper shipping name

Proper Shipping Name (ADR) : SODIUM HYDROXIDE SOLUTION
Proper Shipping Name (IMDG) : SODIUM HYDROXIDE SOLUTION
Proper Shipping Name (IATA) : Sodium hydroxide solution
Proper Shipping Name (ADN) : SODIUM HYDROXIDE SOLUTION
Proper Shipping Name (RID) : SODIUM HYDROXIDE SOLUTION
Transport document description (ADR) (ADR) : UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II, (E)
Transport document description (IMDG) : UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II
Transport document description (IATA) : UN 1824 Sodium hydroxide solution, 8, II
Transport document description (ADN) : UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

Transport document description (RID) : UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8

Danger labels (ADR) : 8

:



IMDG

Transport hazard class(es) (IMDG) : 8

Danger labels (IMDG) : 8

:



IATA

Transport hazard class(es) (IATA) : 8

Danger labels (IATA) : 8

:



ADN

Transport hazard class(es) (ADN) : 8

Danger labels (ADN) : 8

:



RID

Transport hazard class(es) (RID) : 8

Danger labels (RID) : 8

:



14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

Packing group (ADN) : II

Packing group (RID) : II

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

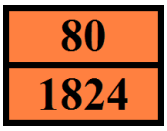
EmS-No. (Fire) : F-A

EmS-No. (Spillage) : S-B

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	C5
Limited quantities (ADR)	:	1l
Excepted quantities (ADR)	:	E2
Packing instructions (ADR)	:	P001, IBC02
Mixed packing provisions (ADR)	:	MP15
Portable tank and bulk container instructions (ADR)	:	T7
Portable tank and bulk container special provisions (ADR)	:	TP2
Tank code (ADR)	:	L4BN
Tank special provisions (ADR)	:	TU42
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	2
Hazard identification number (Kemler No.)	:	80
Orange plates	:	
Tunnel restriction code (ADR)	:	E
EAC code	:	2R

Transport by sea

Limited quantities (IMDG)	:	1 L
Excepted quantities (IMDG)	:	E2
Packing instructions (IMDG)	:	P001
IBC packing instructions (IMDG)	:	IBC02
Tank instructions (IMDG)	:	T7
Tank special provisions (IMDG)	:	TP2
Stowage category (IMDG)	:	A
Segregation (IMDG)	:	SGG18, SG35
Properties and observations (IMDG)	:	Colourless liquid. Corrosive to aluminium, zinc and tin. Reacts with ammonium salts, evolving ammonia gas. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.

Air transport

PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y840
PCA limited quantity max net quantity (IATA)	:	0.5L
PCA packing instructions (IATA)	:	851
PCA max net quantity (IATA)	:	1L
CAO packing instructions (IATA)	:	855
CAO max net quantity (IATA)	:	30L
Special provisions (IATA)	:	A3, A803
ERG code (IATA)	:	8L

Inland waterway transport

Classification code (ADN)	:	C5
Limited quantities (ADN)	:	1 L
Excepted quantities (ADN)	:	E2
Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP, EP
Number of blue cones/lights (ADN)	:	0

Rail transport

Classification code (RID)	:	C5
Limited quantities (RID)	:	1L
Excepted quantities (RID)	:	E2
Packing instructions (RID)	:	P001, IBC02
Mixed packing provisions (RID)	:	MP15
Portable tank and bulk container instructions (RID)	:	T7

Portable tank and bulk container special provisions (RID)	:	TP2
Tank codes for RID tanks (RID)	:	L4BN
Special provisions for RID tanks (RID)	:	TU42
Transport category (RID)	:	2
Colis express (express parcels) (RID)	:	CE6
Hazard identification number (RID)	:	80

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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)	
Reference code	**Applicable on**
3.	Sodium hydroxide 32% w/v AGR
3(b)	Sodium hydroxide 32% w/v AGR

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)
Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Explosives Precursors Regulation (EU 2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (EC 273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

Denmark

Danish National Regulations	:	Young people below the age of 18 years are not allowed to use the product

Germany

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

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

Poland

Polish National Regulations	:	Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225). Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797). The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended). Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923). Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154). Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended). The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488) Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended). Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141). ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891) Regulation of the Minister of Health of 25 August 2015 on the method of marking places, pipelines, and containers and tanks used for storing or containing hazardous substances or hazardous mixtures (J.o.L. 2015, item 1368 as amended)

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Safety Data Sheet (SDS), EU

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.