

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

1.1. Product identifier

Product form	: Substance
Substance name	: Ethanol 96% denatured with Bitrex
IUPAC name	: Ethanol
EC-No.	: 200-578-6
CAS-No.	: 64-17-5
REACH registration No	: 01-2119457610-43-xxxx
Formula	: C2H6O

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

1.2.1. Relevant identified uses

Main use category	: Industrial use, Professional use
Use of the substance/mixture	: Solvents Chemical raw material Diluents

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Sasma
Willem Dreeslaan 301
2729 NE Zoetermeer - Netherlands
T +31 79 363 30 64
sales@sasmabv.com - www.sasmabv.com

1.4. Emergency telephone number

Emergency number : Worldwide: For Hazardous Materials (or Dangerous Goods) Incident, Spill, Leak, Exposure, or Accident – Call NCEC Day or Night(24/7) +441865407333 - SASMA29003-NCEC

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 2	H225
Serious eye damage/eye irritation, Category 2	H319
Full text of H statements : see section 16	

Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. Causes serious eye irritation.

2.2. Label elements

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

Hazard pictograms (CLP) :



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	GHS02	GHS07
Signal word (CLP)	: Danger	
Hazard statements (CLP)	: H225 - Highly flammable liquid and vapour. H319 - Causes serious eye irritation.	
Precautionary statements (CLP)	: P210 - Keep away from hot surfaces, open flames, sparks, heat. — No smoking. P233 - Keep container tightly closed. P240 - Ground/bond container and receiving equipment. P241 - Use explosion-proof electrical, ventilating, lighting equipment. P264 - Wash hands thoroughly after handling. P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P337+P313 - If eye irritation persists: Get medical advice/attention.	

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

Name	: Ethanol 96% denatured with Bitrex
CAS-No.	: 64-17-5
EC-No.	: 200-578-6

Name	Product identifier	%
Ethanol	(CAS-No.) 64-17-5 (EC-No.) 200-578-6 (EC Index-No.) 603-002-00-5 (REACH-no) 01-2119457610-43-xxxx	95,1 – 96,9
Water		3,1 – 4,9
denatonium benzoate (Bitrex)	(CAS-No.) 3734-33-6 (EC-No.) 223-095-2 (REACH-no) 01-2120102843-65-xxxx	0,001 – 1

3.2. Mixtures

Not applicable

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.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing.
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	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after eye contact	: Eye irritation.
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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. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour.

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

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes.

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 : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes.

Hygiene measures : 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

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ethanol 96% denatured with Bitrex (64-17-5)

DNEL/DMEL (Workers)

Long-term - systemic effects, dermal	343 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	950 mg/m ³
Long-term - local effects, inhalation	1900 mg/m ³

DNEL/DMEL (General population)

Long-term - systemic effects, oral	87 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	114 mg/m ³
Long-term - systemic effects, dermal	206 mg/kg bodyweight/day
Long-term - local effects, inhalation	950 mg/m ³

PNEC (Water)

PNEC aqua (freshwater)	0,96 mg/l
PNEC aqua (marine water)	0,79 mg/l

PNEC (Sediment)

PNEC sediment (freshwater)	3,6 mg/kg dwt
PNEC sediment (marine water)	2,9 mg/kg dwt

PNEC (Soil)

PNEC soil	0,38 mg/kg dwt
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PNEC (STP)

PNEC sewage treatment plant	580 mg/l
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8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: butyl rubber. GIVE LESS RESISTANCE: chloroprene rubber

Hand protection:

Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Butyl rubber	6 (> 480 minutes)	0.5		EN ISO 374
Reusable gloves	Fluoroelastomer (FKM)	6 (> 480 minutes)	0.4		EN ISO 374

Eye protection:

Safety glasses

Type	Use	Characteristics	Standard
Safety glasses		With side shields	EN 166

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Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Wear gas mask with filter type A if conc. in air > exposure limit

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear liquid.
Colour	: Colourless.
Odour	: Alcohol odour. Pleasant odour.
Odour threshold	: 100 ppm 188 mg/m ³
pH	: 6 – 9
pH solution	: 10 g/l
Relative evaporation rate (butylacetate=1)	: 2,4
Relative evaporation rate (ether=1)	: 8,3
Melting point	: -144 °C
Freezing point	: No data available
Boiling point	: 78,2 °C
Flash point	: 12 °C
Auto-ignition temperature	: 363 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: 59 hPa
Vapour pressure at 50 °C	: 78,7 hPa
Critical pressure	: 63840 hPa
Relative vapour density at 20 °C	: 1,043
Relative density	: 0,79
Density	: 0,785 g/cm ³ @ 25 °C
Solubility	: Soluble in water. Soluble in acetone. Soluble in ether. Soluble in chloroform. Soluble in oils/fats. Soluble in methanol. Soluble in acids. Water: Full
Partition coefficient n-octanol/water (Log Pow)	: 0,35
Viscosity, kinematic	: 1,516 mm ² /s
Viscosity, dynamic	: 1,19 mPa·s
Explosive properties	: Vapours can form explosive mixtures with air.
Oxidising properties	: the study does not need to be conducted because there are no chemical groups present in the molecule which are associated with oxidising properties and hence, the classification procedure does not need to be applied.
Lower explosive limit (LEL)	: 3,3 vol %
Upper explosive limit (UEL)	: 15 vol %

9.2. Other information

VOC content	: 785 g/l
Other properties	: Gas/vapour heavier than air at 20°C. Clear. Hygroscopic. Volatile.

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SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapour.

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

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

Ethanol 96% denatured with Bitrex (64-17-5)

LD50 oral rat	10740 mg/kg
LD50 dermal rabbit	16000 mg/kg

Ethanol (64-17-5)

LD50 oral rat	15010 mg/kg
LD50 dermal rabbit	16000 mg/kg
LC50 Inhalation - Rat [ppm]	> 60000 ppm/1h

denatonium benzoate (Bitrex) (3734-33-6)

LD50 oral rat	584 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Skin corrosion/irritation : Not classified
pH: 6 – 9
Serious eye damage/irritation : Causes serious eye irritation.
pH: 6 – 9
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

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Aspiration hazard : Not classified

Ethanol 96% denatured with Bitrex (64-17-5)

Viscosity, kinematic	1,516 mm ² /s
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Ethanol 96% denatured with Bitrex (64-17-5)

LC50 fish 1	11200 mg/l Fresh water fish
EC50 Daphnia 1	5012 mg/l Fresh water
EC50 Daphnia 2	857 mg/l Marine water
EC50 72h algae (1)	275 mg/l Fresh water
EC50 72h algae (2)	1900 mg/l Marine water

Ethanol (64-17-5)

LC50 fish 1	14200 mg/l
EC50 Daphnia 1	5012 mg/l
EC50 72h algae (1)	275 mg/l

denatonium benzoate (Bitrex) (3734-33-6)

LC50 fish 1	1000 mg/l
EC50 Daphnia 1	13 mg/l

12.2. Persistence and degradability

Ethanol 96% denatured with Bitrex (64-17-5)

Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil.
Chemical oxygen demand (COD)	1,7 g O ₂ /g substance
ThOD	2,1 g O ₂ /g substance
Biodegradation	75 % in 20 days

Ethanol (64-17-5)

Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. No (test) data on mobility of the substance available.
Chemical oxygen demand (COD)	1,7 g O ₂ /g substance
ThOD	2,1 g O ₂ /g substance

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denatonium benzoate (Bitrex) (3734-33-6)

Persistence and degradability	Biodegradability in water: no data available. No (test) data on mobility of the substance available.
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12.3. Bioaccumulative potential

Ethanol 96% denatured with Bitrex (64-17-5)

Partition coefficient n-octanol/water (Log Pow)	0,35
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Ethanol (64-17-5)

Partition coefficient n-octanol/water (Log Pow)	0,35
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denatonium benzoate (Bitrex) (3734-33-6)

Partition coefficient n-octanol/water (Log Pow)	1,78
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Partition coefficient n-octanol/water (Log Kow)	0,9
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Ethanol 96% denatured with Bitrex (64-17-5)

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

Component

Ethanol (64-17-5)	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
denatonium benzoate (Bitrex) (3734-33-6)	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
Water ()	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.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Beware of residues or vapours which remain in the drums. Do not burn empty packaging. Do not cut using a blowtorch.
Additional information	: Flammable vapours may accumulate in the container.






SECTION 14: Transport information

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

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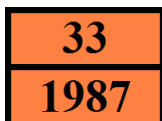
according to Regulation (EU) 2015/830

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 1987	UN 1987	UN 1987	UN 1987	UN 1987
14.2. UN proper shipping name				
ALCOHOLS, N.O.S. (Ethanol, Denatonium Benzoate)	ALCOHOLS, N.O.S. (Ethanol, Denatonium Benzoate)	Alcohols, n.o.s. (Ethanol, Denatonium Benzoate)	ALCOHOLS, N.O.S. (Ethanol, Denatonium Benzoate)	ALCOHOLS, N.O.S. (Ethanol, Denatonium Benzoate)
Transport document description				
UN 1987 ALCOHOLS, N.O.S. (Ethanol, Denatonium Benzoate), 3, II, (D/E)	UN 1987 ALCOHOLS, N.O.S. (Ethanol, Denatonium Benzoate), 3, II	UN 1987 Alcohols, n.o.s. (Ethanol, Denatonium Benzoate), 3, II	UN 1987 ALCOHOLS, N.O.S. (Ethanol, Denatonium Benzoate), 3, II	UN 1987 ALCOHOLS, N.O.S. (Ethanol, Denatonium Benzoate), 3, II
14.3. Transport hazard class(es)				
3	3	3	3	3
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR) : F1
 Special provisions (ADR) : 274, 601, 640D
 Limited quantities (ADR) : 1I
 Excepted quantities (ADR) : E2
 Packing instructions (ADR) : P001, IBC02, R001
 Mixed packing provisions (ADR) : MP19
 Portable tank and bulk container instructions (ADR) : T7
 Portable tank and bulk container special provisions (ADR) : TP1, TP8, TP28
 Tank code (ADR) : LGBF
 Vehicle for tank carriage : FL
 Transport category (ADR) : 2
 Special provisions for carriage - Operation (ADR) : S2, S20
 Hazard identification number (Kemler No.) : 33
 Orange plates :



Tunnel restriction code (ADR) : D/E
 EAC code : •3YE

Transport by sea

Special provisions (IMDG) : 274
 Limited quantities (IMDG) : 1 L
 Excepted quantities (IMDG) : E2
 Packing instructions (IMDG) : P001

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IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP1, TP8, TP28
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-D
Stowage category (IMDG) : B

Air transport

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 353
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 364
CAO max net quantity (IATA) : 60L
Special provisions (IATA) : A3, A180
ERG code (IATA) : 3L

Inland waterway transport

Classification code (ADN) : F1
Special provisions (ADN) : 274, 601, 640D
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Equipment required (ADN) : PP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 1

Rail transport

Classification code (RID) : F1
Special provisions (RID) : 274, 601, 640D
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC02, R001
Mixed packing provisions (RID) : MP19
Portable tank and bulk container instructions (RID) : T7
Portable tank and bulk container special provisions (RID) : TP1, TP8, TP28
Tank codes for RID tanks (RID) : LGBF
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE7
Hazard identification number (RID) : 33

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

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

Reference code	Applicable on
3(a)	Ethanol 96% denatured with Bitrex ; Ethanol
3(b)	Ethanol 96% denatured with Bitrex ; Ethanol
40.	Ethanol 96% denatured with Bitrex ; Ethanol

Ethanol 96% denatured with Bitrex is not on the REACH Candidate List

Ethanol 96% denatured with Bitrex is not on the REACH Annex XIV List

Ethanol 96% denatured with Bitrex is not 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.

Ethanol 96% denatured with Bitrex is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

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VOC content : 785 g/l

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Comments
	Supersedes	Added	
	Revision date	Added	
1.2	Use of the substance/mixture	Added	
2.2	Precautionary statements (CLP)	Modified	
13.1	Product/Packaging disposal recommendations	Added	
13.1	Regional legislation (waste)	Added	

Abbreviations and acronyms:

CAS-No.	Chemical Abstract Service number
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
IOELV	Indicative Occupational Exposure Limit Value
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
N.O.S.	Not Otherwise Specified

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NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TRGS	Technical Rules for Hazardous Substances
SDS	Safety Data Sheet
VOC	Volatile Organic Compounds
WGK	Water Hazard Class
vPvB	Very Persistent and Very Bioaccumulative

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

Full text of H- and EUH-statements:	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

SDS EU (REACH Annex II)

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.