SAFETY DATA SHEET

Isobutyl acetate
10260

Version / Revision	4	**Revision Date**	09-Apr-2025
Supersedes Version	3.00***	**Issuing date**	09-Apr-2025

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

1.1. Product identifier

Identification of the substance/preparation **Isobutyl acetate**

CAS-No 110-19-0
EC No. 203-745-1

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

Use of the Substance / Preparation solvent.
Uses advised against None

1.3. Details of the supplier of the safety data sheet

Company/Undertaking Identification
OXEA Corporation
15375 Memorial Drive
West Memorial Place I
Suite 300
Houston, TX 77079
USA***

Product Information
Product Stewardship
FAX: +49 (0)208 693 2053
email: sc.psq@oxea.com

1.4. Emergency telephone number

Emergency telephone number
+44 (0) 1235 239 670 (UK) available 24/7
NCEC +1 202 464 2554 available 24/7

Local emergency telephone number
+61 2 8014 4558 (Australia)
18000 74234 (Australia toll-free number)
+64 9 929 1483 (New Zealand)
0800 446 881 (New Zealand toll-free number)
+65 3158 1195 (Sri Lanka)
007 803 011 0293 (Indonesia toll-free number)
+60 3 6207 4347 (Malaysia)
001 800 120 666 751 (Thailand toll-free number)
+65 3158 1200 (Bangladesh)
+63 2 8231 2149 (Philippines)
+84 28 4458 2388 (Vietnam)
+65 3165 2217 (Singapore)
available 24/7

SECTION 2: Hazards identification

Europe

2.1. Classification of the substance or mixture

This substance is classified based on Directive 1272/2008/EC and its amendments (CLP Regulation)

Flammable liquid Category 2, H225
Target Organ Systemic Toxicant - Single exposure Category 3, H336

Additional information
For full text of Hazard- and EU Hazard-statements see SECTION 16.

2.2. Label elements

Labelling according to Regulation 1272/2008/EC and its amendments (CLP Regulation).

Hazard pictograms



Signal word	**Danger**
Hazard statements	H225: Highly flammable liquid and vapour. H336: May cause drowsiness or dizziness.
Precautionary statements	P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P233: Keep container tightly closed. P261: Avoid breathing gas/mist/vapours. P280: Wear protective gloves/protective clothing/eye protection/face protection. P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312: Call a POISON CENTRE/doctor if you feel unwell. P403 + P235: Store in a well ventilated place. Keep cool.
Supplemental Hazard Information (EU)	EUH 066: Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

Vapours may form explosive mixture with air
Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback
Components of the product may be absorbed into the body by inhalation

PBT and vPvB assessment	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

USA

2.1. Classification of the substance or mixture

This substance is classified in accordance with paragraph (d) of §1910.1200 (GHS-US classification).

Target Organ Systemic Toxicant - Single exposure Category 3, H336
Flammable liquid Category 2, H225
Environmental hazard Aquatic Acute 3; H402

OSHA Specified Hazards Not applicable.

2.2. Label elements

Labeling according to §1910.1200 (GHS-US labeling).

Hazard symbol(s)



Signal word **Danger**

Hazard statements
H225: Highly flammable liquid and vapor.
H336: May cause drowsiness or dizziness.
H402: Harmful to aquatic life

Precautionary statements

Prevention
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P240: Ground and bond container and receiving equipment.
P241: Use explosion-proof electrical/ ventilating/ lighting equipment.
P242: Use non-sparking tools.
P243: Take precautionary measures against static discharge.
P261: Avoid breathing gas/mist/vapours.
P273: Avoid release to the environment.
P271: Use only outdoors or in a well ventilated area.
P280: Wear protective gloves/eye protection/face protection.

Response
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312: Call a POISON CENTRE/doctor if you feel unwell.

Storage
P403 + P235: Store in a well ventilated place. Keep cool.
P405: Store locked up.

Disposal
P501: Dispose of contents/container in accordance with local regulation.

2.3. Other hazards

Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback
Vapours may form explosive mixture with air
Components of the product may be absorbed into the body by inhalation
Repeated exposure may cause skin dryness or cracking

SECTION 3: Composition / information on ingredients

3.1. Substances

Component	CAS-No	REACh-No	1272/2008/EC	Concentration (%)
Isobutyl acetate	110-19-0	01-2119488971-22	Flam. Liq. 2; H225 STOT SE 3; H336 EU H066	> 99,0

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.

Eyes
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Skin
Wash off immediately with soap and plenty of water. When symptoms persist or in all cases of doubt seek medical advice.

Ingestion
Call a physician immediately. Do not induce vomiting without medical advice.

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

Main symptoms
cough, nausea, vomiting, headache, unconsciousness, shortness of breath, dizziness, narcosis.

Special hazard
central nervous system effects, Lung oedema, Prolonged skin contact may defat the skin and produce dermatitis.

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

General advice
Remove contaminated, soaked clothing immediately and dispose of safely. First aider needs to protect himself.

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
foam, dry chemical, carbon dioxide (CO2), water spray

Unsuitable Extinguishing Media
Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Under conditions giving incomplete combustion, hazardous gases produced may consist of:
carbon monoxide (CO)
carbon dioxide (CO2)
Combustion gases of organic materials must in principle be graded as inhalation poisons
Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback
Vapours may form explosive mixture with air

5.3. Advice for firefighters

Special protective equipment for firefighters
Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turn out gear.

Precautions for firefighting
Cool containers / tanks with water spray. Dike and collect water used to fight fire. Keep people away from and upwind of fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: For personal protective equipment see section 8. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.
For emergency responders: Personal protection see section 8.

6.2. Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

6.3. Methods and material for containment and cleaning up

Methods for containment
Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

Methods for cleaning up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

6.4. Reference to other sections

For personal protective equipment see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms.

Hygiene measures
When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Advice on the protection of the environment
See Section 8: Environmental exposure controls.

Incompatible products
strong acids and strong bases
strong oxidizing agents

7.2. Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion
Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material. Vapour is heavier than air and can travel considerable distance to a source of ignition and flashback. Vapours may form explosive mixture with air.

Technical measures/Storage conditions
Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care.

Suitable material
mild steel, stainless steel, aluminium

Unsuitable material
Attacks some forms of plastic and rubber, copper

Temperature class
T2

7.3. Specific end use(s)

Formulation
Distribution of substance
coatings
cleaning agent
laboratory chemicals

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Exposure limits European Union

Directive 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Component	TWA (mg/m³)	TWA (ppm)	STEL (mg/m³)	STEL (ppm)	Skin Absorption
Isobutyl acetate CAS: 110-19-0	241	50	723	150	

Exposure limits Germany

TRGS 900

Component	AGW (mg/m³)	AGW (ppm)	STEL factor Peak factor	Peak-limit category
Isobutyl acetate CAS: 110-19-0	300	62	2	I

Component	Skin resorptive	Reproductive hazard	Note
Isobutyl acetate CAS: 110-19-0		Y	

MAK-values from the DFG

Component	MAK (ppm)	MAK (mg/m³)	listed w/o limits	Ceiling limit value
Isobutyl acetate CAS: 110-19-0	100	480		(2) I

Component	H;S	carcinogenic category	pregnancy group	mutagenicity category
Isobutyl acetate CAS: 110-19-0			C	

Note
For details and further information please refer to the original regulation.

Exposure limits United States of America

US ACGIH

Component	TWA (mg/m³)	TWA (ppm)	STEL (mg/m³)	STEL (ppm)
Isobutyl acetate CAS: 110-19-0		50		150

US OSHA Z-1

Component	Ceiling (mg/m³)	Ceiling (ppm)	PEL (mg/m³)	PEL (ppm)	Skin Designation
Isobutyl acetate CAS: 110-19-0			700	150	

Note
For details and further information please refer to the original regulation.

8.2. Exposure controls

Appropriate Engineering controls
General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Personal protective equipment

General industrial hygiene practice
Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures
When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before

breaks and immediately after handling the product.

Eye protection
Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.

Hand protection
Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

Suitable material	butyl-rubber
Evaluation	according to EN 374: level 3
Glove thickness	approx 0,3 mm
Break through time	approx 60 min

Suitable material	polyvinylchloride / nitrile rubber
Evaluation	according to EN 374: level 2
Glove thickness	approx 0,9 mm
Break through time	approx 30 min

Skin and body protection
Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.

Respiratory protection
Respirator with filter for organic vapour. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Equipment should conform to NIOSH, EN or other applicable national standards.

Environmental exposure controls
If possible use in closed systems. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	liquid
Colour	colourless
Odour	fruity
Odour threshold	19,3 mg/m³
pH	6,7 (~5 g/l in water @ 20 °C (68 °F))
Melting point/freezing point	< -90 °C (Pour point)
Boiling point or initial boiling point and boiling range	117 °C @ 1013 hPa
Flash point	22 °C @ 1013 hPa
Method	ISO 2719
Evaporation rate	1,5 (n-Butyl acetate = 1)
Flammability (solid, gas)	Does not apply, the substance is a liquid
Lower explosion limit	1,3 Vol %
Upper explosion limit	10,5 Vol %

Vapour pressure

Values [hPa]	Values [kPa]	Values [atm]	@ °C	@ °F	Method

21	2,1	0,021	20	68	DIN EN 13016-2
89	8,9	0,088	50	122	DIN EN 13016-2

Relative vapour density 4,0 (Air = 1) @ 20 °C (68 °F)

Density and/or relative density

Values	@ °C	@ °F	Method
0,871	20	68	DIN 51757

Solubility 5,6 g/l @ 20 °C, in water, OECD 105
Partition coefficient n-octanol/water (log value) 2,3 @ 25 °C (77 °F) measured OECD 117
Autoignition temperature 430 °C @ 1019 hPa
Method DIN 51794
Decomposition temperature No data available
Viscosity 0,70 mPa*s @ 20 °C
Method dynamic, ASTM D445
Oxidizing properties Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties
Explosive properties Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties

9.2. Other information

Molecular weight 116,16
Molecular formula C6 H12 O2
log Koc 1,19 calculated
Refractive index 1,390 @ 20 °C
Surface tension 62,5 mN/m (1 g/l @ 20°C (68°F)), OECD 115

SECTION 10: Stability and Reactivity

10.1. Reactivity

The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4. Conditions to avoid

Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.

10.5. Incompatible materials

strong acids and strong bases, strong oxidizing agents.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure Ingestion, Inhalation, Eye contact, Skin contact

Acute toxicity				
Isobutyl acetate (110-19-0)				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	13413 mg/kg	rat	OECD 401
Dermal	LD50	> 17400 mg/kg	rabbit male	OECD 402
Inhalative	LC50	30 mg/l	rat, female	OECD 403

Isobutyl acetate, CAS: 110-19-0
Assessment
Based on available data, the classification criteria are not met for:
Acute oral toxicity
Acute dermal toxicity
Acute inhalation toxicity

Irritation and corrosion				
Isobutyl acetate (110-19-0)				
Target Organ Effects	Species	Result	Method	
Skin	rabbit	No skin irritation	OECD 404	read across
Eyes	rabbit	No eye irritation	OECD 405	read across
Respiratory tract	human	Low irritating potential		read across

Isobutyl acetate, CAS: 110-19-0
Assessment
Based on available data, the classification criteria are not met for:
skin irritation/corrosion
eye irritation/corrosion
respiratory irritation

Sensitization				
Isobutyl acetate (110-19-0)				
Target Organ Effects	Species	Evaluation	Method	
Skin	guinea pig	not sensitizing	OECD 406	

Isobutyl acetate, CAS: 110-19-0
Assessment
Based on available data, the classification criteria are not met for:
Skin sensitization
For respiratory sensitization, no data are available

Subacute, subchronic and prolonged toxicity				
Isobutyl acetate (110-19-0)				
Type	Dose	Species	Method	
Subchronic toxicity	NOAEL: 495 mg/kg/d	rat, male/female	OECD 408	read across
Subchronic toxicity	NOAEC: 500 ppm/d (13 weeks)	rat, male/female	EPA OTS 798.2450 Inhalation	read across

Isobutyl acetate, CAS: 110-19-0
Assessment
Based on available data, the classification criteria are not met for:
STOT RE

Carcinogenicity, Mutagenicity, Reproductive toxicity					
Isobutyl acetate (110-19-0)					
Type	Dose	Species	Evaluation	Method	
Mutagenicity		Salmonella typhimurium	negative	OECD 471 (Ames)	In vitro study
Mutagenicity		V79 cells, Chinese hamster	negative (with metabolic activation)	OECD 473 (Chromosomal Aberration)	In vitro study
Mutagenicity		mouse	negative	OECD 474	read across In vitro study micronucleus test
Developmental Toxicity	NOAEC: 15,7 mg/l	rat		OECD 414, Inhalative	read across Maternal toxicity, Developmental toxicity, Teratogenicity Embryotoxicity
Developmental Toxicity	NOAEC: 3,9 mg/l	rabbit	Maternal toxicity	OECD 414, Inhalative	read across
Developmental Toxicity	NOAEC: 15,7 mg/l	rabbit	Fetal toxicity, Embryotoxicity Teratogenicity	OECD 414, Inhalative	read across
Reproductive toxicity	NOAEC: 3198 ppm	rat, parental rat, 1. Generation, male/female rat 2. Generation, male/female		EPA OPPTS 870.3800	read across
Reproductive toxicity		V79 cells, Chinese hamster	negative (with metabolic activation)	OECD 476 (Mammalian Gene Mutation) HPRT	read across In vitro study

Isobutyl acetate, CAS: 110-19-0
CMR Classification
The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B
Evaluation
Based on available data, the classification criteria are not met for:
Mutagenicity
Developmental toxicity
Reproductive toxicity
No cancer study was conducted

Isobutyl acetate, CAS: 110-19-0
Main symptoms
cough, shortness of breath, dizziness, headache, nausea, narcosis, vomiting, unconsciousness.
Target Organ Systemic Toxicant - Single exposure
The available data lead to the classification given in section 2
Target Organ Systemic Toxicant - Repeated exposure

Repeated exposure may cause skin dryness or cracking
Based on available data, the classification criteria are not met for:
STOT RE

Other adverse effects

Components of the product may be absorbed into the body by inhalation.

Note

Handle in accordance with good industrial hygiene and safety practice. Further details on substance data can be found in the registration dossier under the following link:
http://echa.europa.eu/information-on-chemicals/registered-substances.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity			
Isobutyl acetate (110-19-0)			
Species	Exposure time	Dose	Method
Daphnia magna (Water flea)	48h	EC50: 25 mg/l	OECD 202
Oryzias latipes (Medaka)	96h	LC50: 17 mg/l	OECD 203
Pseudokirchneriella subcapitata	72h	EC50: 397 mg/l (Growth rate)	OECD 201
Pseudomonas putida	16 h	TTC: 200 mg/l	Cell multiplication inhibition test

Long term toxicity				
Isobutyl acetate (110-19-0)				
Type	Species	Dose	Method	
Reproductive toxicity	Daphnia magna (Water flea)	EC50: 34 mg/l/21d	OECD 211	
Reproductive toxicity	Daphnia magna (Water flea)	NOEC: 23 mg/l (21d)	OECD 211	
Aquatic toxicity	Pseudokirchneriella subcapitata	NOEC: 196 mg/l (3d)	OECD 201	

12.2. Persistence and degradability

Isobutyl acetate, CAS: 110-19-0

Biodegradation

81 % (20 d), Readily biodegradable, Sewage, domestic, non-adapted, aerobic, OECD 301 D.

Abiotic Degradation		
Isobutyl acetate (110-19-0)		
Type	Result	Method
Hydrolysis	t1/2 (pH 7): 3,33 yr @ 25°C	calculated
Photolysis	Half-life (DT50): 3,49 days	calculated

12.3. Bioaccumulative potential

Isobutyl acetate (110-19-0)		
Type	Result	Method
log Pow	2,3 @ 25 °C (77 °F)	measured, OECD 117
BCF	15,3	calculated

12.4. Mobility in soil

Isobutyl acetate (110-19-0)		
Type	Result	Method
Surface tension	62,5 mN/m (1 g/l @ 20°C (68°F))	OECD 115
Adsorption/Desorption	log Koc: 1,19	calculated
Distribution to environmental compartments	Air: 13% Soil: 48% Water: 38,8% Sediment: 0,11%	calculated Fugacity Model Level III

12.5. Results of PBT and vPvB assessment

Isobutyl acetate, CAS: 110-19-0
PBT and vPvB assessment
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

12.6. Other adverse effects

Isobutyl acetate, CAS: 110-19-0
No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product Information
Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.
Hazardous waste according to European Waste Catalogue (EWC)

Uncleaned empty packaging
Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

SECTION 14: Transport information

ICAO-TI / IATA-DGR

14.1. UN number or ID number	UN 1213
14.2. UN proper shipping name	Isobutyl acetate
14.3. Transport hazard class(es)	3
14.4. Packing group	II
14.5. Environmental hazards	no
14.6. Special precautions for user	no data available

IMDG

14.1. UN number or ID number	UN 1213
14.2. UN proper shipping name	Isobutyl acetate
14.3. Transport hazard class(es)	3
14.4. Packing group	II
14.5. Environmental hazards	no
14.6. Special precautions for user	
EmS	F-E, S-D
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	
Product name	Butyl acetate
Ship type	3
Pollution category	Y

ADR/RID

14.1. UN number or ID number	UN 1213
14.2. UN proper shipping name	Isobutyl acetate
14.3. Transport hazard class(es)	3
14.4. Packing group	II
14.5. Environmental hazards	no
14.6. Special precautions for user	
ADR Tunnel restriction code	(D/E)
Classification Code	F1
Hazard Number	33

SECTION 15: Regulatory information

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

Regulation 1272/2008, Annex VI

Isobutyl acetate, CAS: 110-19-0

Classification	Flam. Liq. 2; H225
Hazard pictograms	GHS02 Flame
Signal word	Danger
Hazard statements	H225, EUH066

DI 2012/18/EU (Seveso III)

Category	Annex I, part 1: P5a - c; depending on conditions

VOC according to DI 2010/75/EU (Industry Emission Directive)

Component	Status
Isobutyl acetate CAS: 110-19-0	regulated

International Inventories

Isobutyl acetate, CAS: 110-19-0
AICS (AU)
DSL (CA)
IECSC (CN)
EC-No. 2037451 (EU)
ENCS (2)-731 (JP)
ISHL (2)-731 (JP)
KECI KE-00055 (KR)
INSQ (MX)
PICCS (PH)
TSCA (US)
NZIoC (NZ)
TCSI (TW)

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3
H225: Highly flammable liquid and vapour.
H336: May cause drowsiness or dizziness.
EUH 066: Repeated exposure may cause skin dryness or cracking.

Abbreviations
A table of terms and abbreviations can be found under the following link:
http://echa.europa.eu/documents/10162/13632/information_requirements_r20_en.pdf

Training advice
For effective first-aid, special training / education is needed.

Sources of key data used to compile the datasheet
Information contained in this safety data sheet is based on OXEA owned data and public sources deemed valid or acceptable. The absence of data elements required by OSHA, ANSI or Annex II, Regulation 1907/2006/EC indicates, that no data meeting these requirements is available.

Further information for the safety data sheet
Changes against the previous version are marked by ***. Observe national and local legal requirements. For more information, other material safety data sheets or technical data sheets please consult the OXEA homepage (www.oxae.com).

Disclaimer
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End of Safety Data Sheet