Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

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

1.1. Product identifier

Code: **B180**
Product name **CAT. B 18**

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

Identified Uses	Industrial	Professional	Consumer
Hardner for varnishes	-	✓	-

1.3. Details of the supplier of the safety data sheet

Name **VERINLEGNO S.p.A.**
Full address **Via Luigi Galvani, 7**
District and Country **51010 Massa e Cozzile (PT)**
Italia
Tel. +39 0572 / 9271.1
Fax +39 0572 / 773608
e-mail address of the competent person responsible for the Safety Data Sheet **ambientesicurezza@verinlegno.it**

1.4. Emergency telephone number

For urgent inquiries refer to **Ing. Cialdoni Annamaria:**
+ 39 0572 927120 (dalle ore 08:00 alle ore 12.00 e dalle ore 14:00 alle ore 18:00)

Reach and CLP Helpdesks:
http://reach.sviluppoeconomico.gov.it/
http://www.iss/hclp/

Centro antiveleni Azienda ospedaliera Papa Giovanni XXII, Bergamo Tel. 800883300
Centro antiveleni Azienda ospedaliera Careggi, Firenze Tel. +39 055 7947819
Centro antiveleni Azienda ospedaliera Univ. Foggia Tel. +39 0881 732326
Centro antiveleni Azienda ospedaliera Niguarda Ca' Grande, Milano Tel. +39 02 66101029
Centro antiveleni Azienda ospedaliera Cardarelli, Napoli Tel. 39 081 7472870
Centro antiveleni Azienda ospedaliera Pavia Tel. +39 0382 24444
Centro antiveleni Azienda ospedaliera Bambino Gesù, Roma Tel. +39 06 68593726
Centro antiveleni Policlinico Gemelli, Roma Tel. +39 06 49978000
Centro antiveleni Policlinico Umberto I, Roma Tel. +39 06 49978000
Si prega di contattare l'organo competente ufficiale dello Stato in cui si è verificata l'emergenza.

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2015/830.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Flammable liquid, category 2	H225	Highly flammable liquid and vapour.
Reproductive toxicity, category 2	H361d	Suspected of damaging the unborn child.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Specific target organ toxicity - repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.

SECTION 2. Hazards identification ... / >>

Respiratory sensitization, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, category 1	H317	May cause an allergic skin reaction.
Specific target organ toxicity - single exposure, category 3	H336	May cause drowsiness or dizziness.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Danger

Hazard statements:

H225	Highly flammable liquid and vapour.
H361d	Suspected of damaging the unborn child.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
EUH204	Contains isocyanates. May produce an allergic reaction.
EUH208	Contains: TOLUENE-2,4-DI-ISOCYANATE May produce an allergic reaction.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P331	Do NOT induce vomiting.
P261	Avoid breathing dust / fume / gas / mist / vapours / spray.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER / doctor
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER / doctor

Contains:
TOLUENE
TOLUENE-2,4-DI-ISOCYANATE
ADDOTTO POLIURETANICO AROMATICO
ETHYL ACETATE
N-BUTYL ACETATE

Product not intended for uses provided for by Dir. 2004/42/CE.

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

SECTION 3. Composition/information on ingredients

3.1. Substances

Information not relevant

SECTION 3. Composition/information on ingredients ... / >>

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
ETHYL ACETATE		
CAS 141-78-6	42,5 ≤ x < 45	**Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066**
EC 205-500-4		
INDEX 607-022-00-5		
Reg. no. 01-2119475103-46		
N-BUTYL ACETATE		
CAS 123-86-4	24 ≤ x < 25,5	**Flam. Liq. 3 H226, STOT SE 3 H336, EUH066**
EC 204-658-1		
INDEX 607-025-00-1		
Reg. no. 01-2119485493-29		
ADDOTTO POLIURETANICO AROMATICO		
CAS 53317-61-6	10,5 ≤ x < 12	**Eye Irrit. 2 H319, Skin Sens. 1 H317**
EC 500-120-8		
INDEX		
TOLUENE		
CAS 108-88-3	10,5 ≤ x < 12	**Flam. Liq. 2 H225, Repr. 2 H361d, Asp. Tox. 1 H304, STOT RE 2 H373, Skin Irrit. 2 H315, STOT SE 3 H336**
EC 203-625-9		
INDEX 601-021-00-3		
Reg. no. 01-2119471310-51		
TOLUENE-2,4-DI-ISOCYANATE		
CAS 91-08-7	0,1 ≤ x < 0,15	**Carc. 2 H351, Acute Tox. 2 H330, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335 , Resp. Sens. 1 H334, Skin Sens. 1 H317, Aquatic Chronic 3 H412, Classification note according to Annex VI to the CLP Regulation: 2 C**
EC 202-039-0		
INDEX 615-006-00-4		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.
INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT
Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.
UNSUITABLE EXTINGUISHING EQUIPMENT
Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

SECTION 5. Firefighting measures ... / >>

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION
Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS
Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.
Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.
Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Vapours may catch fire and an explosion may occur; vapour accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

CZE	Česká Republika	Nařízení vlády č. 361/2007 Sb. kterým se stanoví podmínky ochrany zdraví při práci
DEU	Deutschland	TRGS 900 (Fassung 31.1.2018 ber.) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
DNK	Danmark	Graensevaerdier per stoffer og materialer
ESP	España	INSHT - Límites de exposición profesional para agentes químicos en España 2017
FRA	France	JORF n°0109 du 10 mai 2012 page 8773 texte n° 102
GBR	United Kingdom	EH40/2005 Workplace exposure limits
GRC	Ελλάδα	ΕΦΗΜΕΡΙΣ ΤΗΣ ΚΥΒΕΡΝΗΣΕΩΣ -ΤΕΥΧΟΣ ΠΡΩΤΟ Αρ. Φύλλου 19 - 9 Φεβρουαρίου 2012
HRV	Hrvatska	NN13/09 - Ministarstvo gospodarstva, rada i poduzetništva
HUN	Magyarország	50/2011. (XII. 22.) NGM rendelet a munkahelyek kémiai biztonságáról
LTU	Lietuva	DĖL LIETUVOS HIGIENOS NORMOS HN 23:2007 CHEMINIŲ MEDŽIAGŲ 2007 m. spalio 15 d. Nr. V-827/A1-287
NLD	Nederland	Databank of the social and Economic Concil of Netherlands (SER) Values, AF 2011:18
POL	Polska	ROZPORZĄDZENIE MINISTRA PRACY I POLITYKI SPOŁECZNEJ z dnia 7 czerwca 2017 r
ROU	România	Monitorul Oficial al României 44; 2012-01-19
SVK	Slovensko	NARIADENIE VLÁDY Slovenskej republiky z 20. júna 2007
EU	OEL EU	Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2019

ETHYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV	CZE	700		900	
AGW	DEU	1500	400	3000	800
MAK	DEU	1500	400	3000	800
TLV	DNK	540	150		
VLA	ESP	1460	400		
VLEP	FRA	1400	400		
WEL	GBR		200		400
TLV	GRC	1400	400		
GVI	HRV		200		400
AK	HUN	1400		1400	
RD	LTU	500	150	1100 (C)	300 (C)
OEL	NLD	550		1100	
NDS	POL	734		1468	
TLV	ROU	400	111	500	139
NPHV	SVK	1500	400	3000	
OEL	EU	734	200	1468	400
TLV-ACGIH		1441	400		

N-BUTYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV	CZE	950		1200	
AGW	DEU	300	62	600	124
VLA	ESP	724	150	965	200
VLEP	FRA	710	150	940	200
WEL	GBR	724	150	966	200
TLV	GRC	710	150	950	200
GVI	HRV	724	150	966	200
AK	HUN	950		950	
OEL	NLD	150			
NDS	POL	200		950	
TLV	ROU	715	150	950	200
NPHV	SVK	480	100	960	
TLV-ACGIH		713	150	950	200

SECTION 8. Exposure controls/personal protection ... / >>

TOLUENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	200		500		SKIN
AGW	DEU	190	50	760	200	SKIN
MAK	DEU	190	50	760	200	
TLV	DNK	94	25			SKIN
VLA	ESP	192	50	384	100	SKIN
VLEP	FRA	76,8	20	384	100	SKIN
WEL	GBR	191	50	384	100	SKIN
TLV	GRC	192	50	384	100	
GVI	HRV	192	50	384	100	SKIN
AK	HUN	190		760		
RD	LTU	192	50	384	100	SKIN
OEL	NLD	150		384		
NDS	POL	100		200		
TLV	ROU	192	50	384	100	SKIN
NPHV	SVK	192	50	384		SKIN
OEL	EU	192	50	384	100	SKIN
TLV-ACGIH		75,4	20			

TOLUENE-2,4-DI-ISOCYANATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	0,05		0,1		
AGW	DEU	0,035	0,005	0,035	0,005	
TLV	DNK	0,035	0,005			
VLA	ESP	0,036	0,005	0,14	0,02	
WEL	GBR	0,02		0,07		
TLV	GRC	0,07		0,14		
AK	HUN			0,035 (C)		
OEL	NLD	0,04	5	0,15	20	
NDS	POL	0,007		0,021		
NPHV	SVK	0,07	0,01			
TLV-ACGIH			0,001		0,005	SKIN

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

ETHYL ACETATE
Regulatory Reference, Ministry of Labour & Employment, Government of India (DGFASLI): TWA (8 hrs) 400 ppm - 1,400 mg/m3.

N-BUTYL ACETATE
Regulatory Reference, Ministry of Labour & Employment, Government of India (DGFASLI): TWA (8 hrs) 150 ppm - 710 mg/m3 STEL (15 min) 200 ppm - 950 mg/m3.

TOLUENE
Regulatory Reference, Ministry of Labour & Employment, Government of India (DGFASLI): TWA (8 hrs) 100 ppm - 375 mg/m3 STEL (15 min) 150 ppm - 560 mg/m3.

8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.
When choosing personal protective equipment, ask your chemical substance supplier for advice.
Personal protective equipment must be CE marked, showing that it complies with applicable standards.
Provide an emergency shower with face and eye wash station.
Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).
HAND PROTECTION
Protect hands with category III work gloves (see standard EN 374).
The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.
The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.
SKIN PROTECTION
Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash

SECTION 8. Exposure controls/personal protection ... / >>

body with soap and water after removing protective clothing.
Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.
EYE PROTECTION
Wear airtight protective goggles (see standard EN 166).
RESPIRATORY PROTECTION
If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a type AX filter, whose limit of use will be defined by the manufacturer (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.
Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.
If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.
ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance		liquid
Colour		colourless
Odour		characteristic
Odour threshold		Not available
pH		Not available
Melting point / freezing point		0 °C
Initial boiling point	>	35 °C
Boiling range		Not available
Flash point	<	23 °C
Evaporation rate		Not available
Flammability (solid, gas)		Not available
Lower inflammability limit		Not available
Upper inflammability limit		Not available
Lower explosive limit		Not available
Upper explosive limit		Not available
Vapour pressure		Not available
Vapour density		> 1
Relative density		0,955 +/- 0,020 Kg/Lt
Solubility		soluble in organic solvents
Partition coefficient: n-octanol/water		Not available
Auto-ignition temperature		Not available
Decomposition temperature		Not available
Viscosity		46" +/- 5" DIN 2 (20°C)
Explosive properties		Not available
Oxidising properties		Not available

9.2. Other information

Total solids (250°C / 482°F)	19,86 %			
VOC (Directive 2010/75/EC) :	80,14 %	-	765,38	g/litre
VOC (volatile carbon) :	49,58 %	-	473,52	g/litre

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

ETHYL ACETATE
Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

N-BUTYL ACETATE
Decomposes on contact with: water.

TOLUENE
Avoid exposure to: light.

SECTION 10. Stability and reactivity ... / >>

TOLUENE-2,4-DI-ISOCYANATE
Polymerises developing heat on contact with: amines,strong bases.

Reacts with hot water and alcohols, decomposing and releasing carbon dioxide.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

ETHYL ACETATE
Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.

N-BUTYL ACETATE
Risk of explosion on contact with: strong oxidising agents.May react dangerously with: alkaline hydroxides,potassium tert-butoxide.Forms explosive mixtures with: air.

TOLUENE
Risk of explosion on contact with: fuming sulphuric acid,nitric acid,silver perchlorate,nitrogen dioxide,non-metal halogenates,acetic acid,organic nitrocompounds.May form explosive mixtures with: air.May react dangerously with: strong oxidising agents,strong acids,sulphur.

TOLUENE-2,4-DI-ISOCYANATE
Polymerises developing heat on contact with: amines,strong bases.Reacts violently developing heat on contact with: acetyl chloride,amines,bases,ethanol,methanol,oxidising substances,phenoles.Forms explosive mixtures with: hot air.

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

ETHYL ACETATE
Avoid exposure to: light,sources of heat,naked flames.

N-BUTYL ACETATE
Avoid exposure to: moisture,sources of heat,naked flames.

TOLUENE-2,4-DI-ISOCYANATE
Avoid exposure to: sources of heat,naked flames.

10.5. Incompatible materials

ETHYL ACETATE
Incompatible with: acids,bases,strong oxidants,aluminium,nitrates,chlorosulphuric acid.Incompatible materials: plastic materials.

N-BUTYL ACETATE
Incompatible with: water,nitrates,strong oxidants,acids,alkalis,zinc.

TOLUENE-2,4-DI-ISOCYANATE
Incompatible with: water,acids,alkalis,amines,strong oxidants.

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

TOLUENE-2,4-DI-ISOCYANATE
May develop: carbon oxides,hydrogen cyanide,nitrous gases.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.
It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

SECTION 11. Toxicological information ... / >>

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

N-BUTYL ACETATE
WORKERS: inhalation; contact with the skin.

TOLUENE
WORKERS: inhalation; contact with the skin.
POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

N-BUTYL ACETATE
In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

TOLUENE
Toxic effect on the central and peripheral nervous system with encephalopathy and polyneuritis; irritating for the skin, conjunctiva, cornea and respiratory apparatus.

Interactive effects

N-BUTYL ACETATE
A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

TOLUENE
Certain drugs and other industrial products can interfere with the metabolism of the toluene.

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:	> 20 mg/l
LD50 (Oral) of the mixture:	Not classified (no significant component)
LD50 (Dermal) of the mixture:	Not classified (no significant component)

TOLUENE

LD50 (Oral)	5580 mg/kg Rat
LD50 (Dermal)	12124 mg/kg Rabbit
LC50 (Inhalation)	28,1 mg/l/4h Rat

N-BUTYL ACETATE

LD50 (Oral)	> 6400 mg/kg Rat
LD50 (Dermal)	> 5000 mg/kg Rabbit
LC50 (Inhalation)	21,1 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin
Sensitising for the respiratory system
May produce an allergic reaction.

SECTION 11. Toxicological information ... / >>

Contains:
TOLUENE-2,4-DI-ISOCYANATE

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

TOLUENE
Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 1999).
The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

REPRODUCTIVE TOXICITY

Suspected of damaging the unborn child

STOT - SINGLE EXPOSURE

May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

May cause damage to organs

ASPIRATION HAZARD

Toxic for aspiration

SECTION 12. Ecological information

No specific data are available for this product. Handle it according to good working practices. Avoid littering. Do not contaminate soil and waterways. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation. Please take all the proper measures to reduce harmful effects on aquifers.

12.1. Toxicity

Information not available

12.2. Persistence and degradability

TOLUENE	
Solubility in water	100 - 1000 mg/l
Rapidly degradable	
ETHYL ACETATE	
Solubility in water	> 10000 mg/l
Rapidly degradable	
N-BUTYL ACETATE	
Solubility in water	1000 - 10000 mg/l

12.3. Bioaccumulative potential

TOLUENE	
Partition coefficient: n-octanol/water	2,73
BCF	90
ETHYL ACETATE	
Partition coefficient: n-octanol/water	0,68
BCF	30

SECTION 12. Ecological information ... / >>

N-BUTYL ACETATE
Partition coefficient: n-octanol/water 2,3
BCF 15,3

12.4. Mobility in soil

N-BUTYL ACETATE
Partition coefficient: soil/water < 3

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.
Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.
Waste transportation may be subject to ADR restrictions.
CONTAMINATED PACKAGING
Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 1263

14.2. UN proper shipping name

ADR / RID: PAINT
IMDG: PAINT
IATA: PAINT

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID: NO
IMDG: NO
IATA: NO

SECTION 14. Transport information ... / >>

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 33 Special Provision: 640D	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	
IATA:	Cargo: Pass.: Special Instructions:	Maximum quantity: 60 L Maximum quantity: 5 L A3, A72, A192	Packaging instructions: 364 Packaging instructions: 353

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EC: P5c

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product
Point 3 - 40

Contained substance
Point 48 TOLUENE
Reg. no.: 01-2119471310-51

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare controls
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Carc. 2	Carcinogenicity, category 2
Repr. 2	Reproductive toxicity, category 2
Acute Tox. 2	Acute toxicity, category 2
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Resp. Sens. 1	Respiratory sensitization, category 1
Skin Sens. 1	Skin sensitization, category 1

SECTION 16. Other information ... / >>

Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H330	Fatal if inhaled.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH204	Contains isocyanates. May produce an allergic reaction.

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY
1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
4. Regulation (EU) 2015/830 of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
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14. Κανονίσμός (ΕΕ) 2018/669 (XI Atp. CLP)
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- The Merck Index. - 10th Edition
- Handling Chemical Safety

SECTION 16. Other information ... / >>

- INRS - Fiche Toxicologique (toxicological sheet)- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:
The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.
This document must not be regarded as a guarantee on any specific product property.
The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.
Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:
The following sections were modified:
01 / 08 / 09.
Changed TLVs in section 8.1 for following countries:
DNK,