



# 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: C153AP  
Product name: BRUSHABLE ANTIYELLOWING HARDENER

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

Intended use: Hardener for professional/industrial use

Identified Uses	Industrial	Professional	Consumer
Pertinent description of use:	✓	✓	-
Uses Advised Against			
Do it yourself			

### 1.3. Details of the supplier of the safety data sheet

Name: INDUSTRIA CHIMICA ADRIATICA S.P.A.  
Full address: Via S. Pertini, 52  
District and Country: 62012 Civitanova Marche (MC)  
ITALY  
Tel. +39 0733 8080  
Fax +39 0733 808140

e-mail address of the competent person responsible for the Safety Data Sheet: regulatoryaffairs@icaspa.com

Product distribution by: INDUSTRIA CHIMICA ADRIATICA S.p.A.

### 1.4. Emergency telephone number

For urgent inquiries refer to: Anti-poison centre – Hospital of Florence (24/24 hours)  
Telephone +39 055 794 7819

## 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.
Eye irritation, category 2	H319	Causes serious eye irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
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:





## C153AP - BRUSHABLE ANTIYELLOWING HARDENER

## SECTION 2. Hazards identification ... / &gt;&gt;

Signal words: Danger

## Hazard statements:

<b>H225</b>	Highly flammable liquid and vapour.
<b>H319</b>	Causes serious eye irritation.
<b>H335</b>	May cause respiratory irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H336</b>	May cause drowsiness or dizziness.
<b>EUH066</b>	Repeated exposure may cause skin dryness or cracking.
<b>EUH204</b>	Contains isocyanates. May produce an allergic reaction.

## Precautionary statements:

<b>P210</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>P280</b>	Wear protective gloves/ protective clothing / eye protection / face protection.
<b>P370+P378</b>	In case of fire: use chemical powder to extinguish.
<b>P261</b>	Avoid breathing dust / fume / gas / mist / vapours / spray.
<b>P233</b>	Keep container tightly closed.
<b>P312</b>	Call a POISON CENTER / doctor / if you feel unwell.

**Contains:** Hexamethylene-1,6-diisocyanate Homopolymer  
Aromatic polyisocyanate  
Ethyl acetate  
N-butyl acetate

## 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

## 3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
<b>N-butyl acetate</b>		
CAS	123-86-4 35 ≤ x < 37,5	<b>Flam. Liq. 3 H226, STOT SE 3 H336, EUH066</b>
EC	204-658-1	
INDEX	607-025-00-1	
Reg. no.	01-2119485493-29-XXXX	
<b>Hexamethylene-1,6-diisocyanate Homopolymer</b>		
CAS	28182-81-2 22,5 ≤ x < 24	<b>Acute Tox. 4 H332, STOT SE 3 H335, Skin Sens. 1 H317</b>
EC	500-060-2	
INDEX		
Reg. no.	01-2119485796-17-XXXX	
<b>Ethyl acetate</b>		
CAS	141-78-6 20 ≤ x < 21,5	<b>Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066</b>
EC	205-500-4	
INDEX	607-022-00-5	
Reg. no.	01-2119475103-46-XXXX	
<b>Aromatic polyisocyanate</b>		
CAS	9017-01-0 15 ≤ x < 16,5	<b>Eye Irrit. 2 H319, Skin Sens. 1 H317</b>
EC		
INDEX		
Reg. no.		
<b>Xylene, mixture of isomers</b>		
CAS	1330-20-7 5 ≤ x < 6	<b>Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Chronic 3 H412</b>
EC	215-535-7	
INDEX	601-022-00-9	
Reg. no.	01-2119488216-32-XXXX	

**SECTION 3. Composition/information on ingredients ... / >>****M-Tolylidene Diisocyanate**

CAS 26471-62-5 0,05 ≤ x &lt; 0,1

**Carc. 2 H351, Acute Tox. 1 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**

EC 247-722-4

INDEX 615-006-00-4

Reg. no. 01-2119454791-34-XXXX

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.

Chemical powders, CO2. Use foam or water only in case of serious fire.

Extinguishing media which must not be used for safety reasons: Strong water jet.

**5.2. Special hazards arising from the substance or mixture****HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE**

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.

**SECTION 6. Accidental release measures ... / >>**

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.

Recover the product for re-use if possible, or for elimination in open containers (develops of CO<sub>2</sub>). The product might, where appropriate, be absorbed by inert material.

**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. 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 cool and 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.

Keep away from water or from damp surroundings.  
Keep this product in a dry place.

Storage class TRGS 510 (Germany): 3

**7.3. Specific end use(s)**

Information not available

**SECTION 8. Exposure controls/personal protection****8.1. Control parameters**

Regulatory References:

DEU	Deutschland	TRGS 900 - Seite 1 von 69 (Fassung 29.03.2019)- Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte
DNK	Danmark	Bekendtgørelse om ændring af bekendtgørelse om grænseværdier for stoffer og materialer1- BEK nr 655 af 31/05/2018
ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FIN	Suomi	HTP-VÄRDEN 2018. Koncentrationer som befunnits skadliga. SOCIAL- OCH HÄLSOVÄRDSMINISTERIETS PUBLIKATIONER 10/2018
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition,published 2018)
HUN	Magyarország	A pénzügyminiszter 7/2018. (VIII. 29.) PM rendelete a munkahelyek kémiai biztonságáról szóló 25/2000. (IX. 30.) EüM–SZCSM együttes rendelet módosításáról
ITA	Italia	DIRETTIVA (UE) 2017/164 DELLA COMMISSIONE del 31 gennaio 2017
NOR	Norge	Fastsatt av Arbeids- og sosialdepartementet 21. august 2018 med hjemmel i lov 17. juni 2005 nr.



## SECTION 8. Exposure controls/personal protection ... / &gt;&gt;

POL	Polska	62 om arbeidsmiljø, arbeidstid, stillingsvern mv. (arbeidsmiljøloven) § 1-3, § 1-4 og § 4-5
ROU	România	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 12 czerwca 2018 r
EU	OEL EU	HOTĂRÂRE nr. 584 din 2 august 2018 pentru modificarea Hotărârii Guvernului nr. 1.218/2006 privind stabilirea cerințelor minime de securitate și sănătate în muncă pentru asigurarea protecției lucrătorilor împotriva riscurilor legate de prezența agenților chimici 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.

## N-butyl acetate

## Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
AGW	DEU	300	62	600	124	
MAK	DEU	480	100	960	200	
TLV	DNK	710	150	1420	300	
VLA	ESP	724	150	965	200	
HTP	FIN	720	150	960	200	
VLEP	FRA	710	150	940	200	
WEL	GBR	724	150	966	200	
AK	HUN	950		950		
NDS/NDSch	POL	200		950		
TLV	ROU	715	150	950	200	

## Predicted no-effect concentration - PNEC

Normal value in fresh water	0,18	mg/l
Normal value in marine water	0,018	mg/l
Normal value for fresh water sediment	0,981	mg/kg
Normal value for marine water sediment	0,0981	mg/kg
Normal value for water, intermittent release	0,36	mg/l
Normal value of STP microorganisms	35,6	mg/l
Normal value for the terrestrial compartment	0,0903	mg/kg

## Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		2		2				
		mg/kg bw/d		mg/kg bw/d				
Inhalation	300	300	35,7	35,7	600	600	300	300
	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3
Skin	NPI	6	NPI	6	NPI	11	NPI	11
		mg/kg bw/d		mg/kg bw/d		mg/kg bw/d		mg/kg bw/d



## SECTION 8. Exposure controls/personal protection ... / &gt;&gt;

## Ethyl acetate

## Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
TLV	DNK	540	150	1080	300	
TLV	NOR	21	5	42	10	
OEL	EU		400			

## Predicted no-effect concentration - PNEC

Normal value in fresh water	0,24	mg/l
Normal value in marine water	0,02	mg/l
Normal value for fresh water sediment	1,15	mg/kg/d
Normal value for marine water sediment	0,115	mg/kg/d
Normal value of STP microorganisms	650	mg/l
Normal value for the food chain (secondary poisoning)	0,2	g/kg
Normal value for the terrestrial compartment	0,148	mg/kg/d

## Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	4,5 mg/kg/d				
Inhalation	734 mg/m <sup>3</sup>	734 mg/m <sup>3</sup>	367 mg/m <sup>3</sup>	367 mg/m <sup>3</sup>	1468 mg/m <sup>3</sup>	1468 mg/m <sup>3</sup>	734 mg/m <sup>3</sup>	734 mg/m <sup>3</sup>
Skin				37 mg/kg bw/d				63 mg/kg bw/d

## Xylene, mixture of isomers

## Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
TLV	DNK	109	25	218	50	
VLEP	ITA	221	50	442	100	SKIN
TLV	NOR	109	25			
OEL	EU	221	50	442	100	SKIN

## Predicted no-effect concentration - PNEC

Normal value in fresh water	0,32	mg/l
Normal value in marine water	0,32	mg/l
Normal value for fresh water sediment	12,46	mg/kg
Normal value for marine water sediment	12,46	mg/kg
Normal value of STP microorganisms	6,58	mg/l
Normal value for the terrestrial compartment	2,31	mg/kg

## Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral			VND	12,5 mg/kg bw/d				
Inhalation	260	260	65,3	65,3 mg/m <sup>3</sup>	442 mg/m <sup>3</sup>	442 mg/m <sup>3</sup>	221	221 mg/m <sup>3</sup>
Skin			NPI	125 mg/kg bw/d			NPI	212 mg/kg/d

**SECTION 8. Exposure controls/personal protection ... / >>****M-Tolyldiene Diisocyanate****Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
AGW	DEU	0,035	0,005	0,14 (C)	0,02 (C)	INHAL
TLV	DNK	0,035	0,005	0,07	0,01	
VLA	ESP	0,036	0,005	0,14	0,02	
VLEP	FRA	0,08	0,01	0,16	0,02	
AK	HUN			0,035		
VLEP	ITA	0,16	0,02	0,01		
NDS/NDSch	POL	0,007		0,021		

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	0,0125	mg/l
Normal value in marine water	0,00125	mg/l
Normal value for water, intermittent release	0,125	mg/l
Normal value of STP microorganisms	1	mg/l
Normal value for the terrestrial compartment	1	mg/kg

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Inhalation					0,14	0,14	0,035	0,035
					mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>

Legend:

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

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

**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.

**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 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, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (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**

Properties	Value	Information
Appearance	liquid	
Colour	transparent	

**SECTION 9. Physical and chemical properties** ... / >>

Odour	characteristic
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available
Initial boiling point	> 77 °C
Boiling range	Not available
Flash point	-18 ≤ T ≤ 23 °C
Evaporation Rate	Not available
Flammability of solids and gases	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	> 1,0000
Relative density	0,99
Solubility	insoluble in water
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

**9.2. Other information**

Total solids (250°C / 482°F)	39,26 %		
VOC (Directive 2010/75/EC) :	60,74 %	- 601,37	g/litre
VOC (volatile carbon) :	37,62 %	- 372,47	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.

**10.2. Chemical stability**

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

## N-butyl acetate

Stable in normal conditions of use and storage.

## Ethyl acetate

Stable in normal conditions of use and storage.

## M-Tolyldene Diisocyanate

M-TOLYLIDENE DIISOCYANATE : SADT = 230°C

**10.3. Possibility of hazardous reactions**

The vapours may also form explosive mixtures with the air.

## N-butyl acetate

May react with: strong oxidising agents.

## Ethyl acetate

Reacts with: acids, strong oxidising agents.

It may generate toxic gases on contact with oxidising mineral acids, and powerful oxidising agents.

**10.4. Conditions to avoid**

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

## N-butyl acetate

Avoid exposure to: ignition sources.

## Ethyl acetate

Avoid exposure to: naked flames, ignition sources, moisture.

**10.5. Incompatible materials**

N-butyl acetate



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

Avoid contact with: strong oxidising agents.

Ethyl acetate

Incompatible with: acids,bases,oxidising agents,alkaline metals.

Avoid contact with water, alcohol, amines, strong alkaline substances because they react.

**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.

Ethyl acetate

May develop: carbon oxides.

Oxides of carbon. Oxides of nitrogen.

**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.

**11.1. Information on toxicological effects**

Special properties/effects:

Hypersensitive persons may suffer from these effects even at low isocyanate concentrations, including concentrations below the UK Workplace Exposure Limit (WEL). Prolonged contact with the skin may cause tanning and irritant effects.

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

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

Information not available

Interactive effects

Information not available

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:	>2000 mg/kg

M-Tolylidene Diisocyanate

LD50 (Oral)	4130 mg/kg Rat
LD50 (Dermal)	> 9400 mg/kg Rabbit
LC50 (Inhalation)	0,107 mg/l/4h Rat

Hexamethylene-1,6-diisocyanate Homopolymer

LD50 (Oral)	> 5000 mg/kg Rat
LD50 (Dermal)	> 2000 mg/kg Rabbit
LC50 (Inhalation)	2,18 mg/l/4h Rat

Xylene, mixture of isomers

LD50 (Oral)	5627 mg/kg Mouse
LD50 (Dermal)	> 5000 mg/kg Rabbit
LC50 (Inhalation)	6700 ppm/4h Rat

**SECTION 11. Toxicological information ... / >>**

Ethyl acetate	
LD50 (Oral)	4934 mg/kg Rat
LD50 (Dermal)	> 20000 mg/kg Rabbit
LC50 (Inhalation)	> 22,5 mg/l/6h Rat

N-butyl acetate	
LD50 (Oral)	10760 mg/kg Rat
LD50 (Dermal)	> 14112 mg/kg Rabbit
LC50 (Inhalation)	> 21,1 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Repeated exposure may cause skin dryness or cracking.

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation  
May cause drowsiness or dizziness

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**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**

M-Tolyldiene Diisocyanate	
LC50 - for Fish	133 mg/l/96h Fish
EC50 - for Crustacea	12,5 mg/l/48h Daphnia
Chronic NOEC for Crustacea	1,1 mg/l Daphnia

Hexamethylene-1,6-diisocyanate Homopolymer	
EC50 - for Crustacea	100 mg/l/48h Daphnia
EC50 - for Algae / Aquatic Plants	51 mg/l/72h Algae

Xylene, mixture of isomers	
LC50 - for Fish	2,6 mg/l/96h Fish
EC50 - for Crustacea	8,5 mg/l/48h
Chronic NOEC for Fish	> 1,3 mg/l

**SECTION 12. Ecological information ... / >>**

Chronic NOEC for Crustacea	1,57 mg/l
Ethyl acetate	
LC50 - for Fish	230 mg/l/96h Fish
EC50 - for Crustacea	165 mg/l/48h Daphnia magna
Chronic NOEC for Crustacea	2,4 mg/l Daphnia pulex
Chronic NOEC for Algae / Aquatic Plants	> 100 mg/l
N-butyl acetate	
LC50 - for Fish	18 mg/l/96h Fish
EC50 - for Crustacea	44 mg/l/48h
EC50 - for Algae / Aquatic Plants	397 mg/l/72h Alga

The product reacts with water and develops CO<sub>2</sub> and a solid insoluble.

**12.2. Persistence and degradability**

N-butyl acetate  
83% (28 d), aerobic, Rapidly biodegradable, OECD 301 D.  
Hydrolysis: t<sub>1/2</sub> (pH 7): 2.14 yr @ 25Å ° C.

Ethyl acetate  
> 70% (28 d), easily biodegradable.

M-Tolyldiene Diisocyanate  
Biodegradability: Not rapidly degradable - Test: Biochemical oxygen demand - Duration: 28 days -%: 0 - Notes: Method OECD 302C.

Xylene, mixture of isomers  
Rapidly degradable

Ethyl acetate  
Rapidly degradable

N-butyl acetate  
Rapidly degradable

**12.3. Bioaccumulative potential**

N-butyl acetate  
LogPow: 2.3, measured OECD 117.  
BCF: 15, calculated.

Ethyl acetate  
BCF: 30, poorly bioaccumulative.

Xylene, mixture of isomers  
LogPow: 3.12.  
BCF: 8.1 to 25.9.  
Potential: Low.

M-Tolyldiene Diisocyanate  
Bioaccumulation: Not bioaccumulative - Test: LogKow 3.43

**12.4. Mobility in soil**

N-butyl acetate  
Surface tension: 61.3 mN / m (1 g / l @ 20 ° C), OECD 115.  
Adsorption / desorption: log Koc: 1.27 @ 25 ° C, calculated.

Ethyl acetate  
Evaporates quickly.

N-butyl acetate  
Partition coefficient: soil/water 1,27

**SECTION 12. Ecological information ... / >>****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: 1866

**14.2. UN proper shipping name**

ADR / RID: RESIN SOLUTION  
IMDG: RESIN SOLUTION  
IATA: RESIN SOLUTION

**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

**14.6. Special precautions for user**

ADR / RID:	HIN - Kemler: 33 Special Provision: 640C	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	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

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.

German regulation on the classification of substances hazardous to water (AwSV, vom 18. April 2017)

WGK 3: Severe hazard to waters

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

**SECTION 16. Other information**

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

<b>Flam. Liq. 2</b>	Flammable liquid, category 2
<b>Flam. Liq. 3</b>	Flammable liquid, category 3
<b>Carc. 2</b>	Carcinogenicity, category 2
<b>Acute Tox. 1</b>	Acute toxicity, category 1
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>Asp. Tox. 1</b>	Aspiration hazard, category 1
<b>STOT RE 2</b>	Specific target organ toxicity - repeated exposure, category 2
<b>Eye Irrit. 2</b>	Eye irritation, category 2
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>STOT SE 3</b>	Specific target organ toxicity - single exposure, category 3
<b>Resp. Sens. 1</b>	Respiratory sensitization, category 1
<b>Skin Sens. 1</b>	Skin sensitization, category 1
<b>Aquatic Chronic 3</b>	Hazardous to the aquatic environment, chronic toxicity, category 3
<b>H225</b>	Highly flammable liquid and vapour.
<b>H226</b>	Flammable liquid and vapour.
<b>H351</b>	Suspected of causing cancer.
<b>H330</b>	Fatal if inhaled.
<b>H312</b>	Harmful in contact with skin.
<b>H332</b>	Harmful if inhaled.
<b>H304</b>	May be fatal if swallowed and enters airways.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.

**SECTION 16. Other information ... / >>**

<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H335</b>	May cause respiratory irritation.
<b>H334</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>H317</b>	May cause an allergic skin reaction.
<b>H336</b>	May cause drowsiness or dizziness.
<b>H412</b>	Harmful to aquatic life with long lasting effects.
<b>EUH066</b>	Repeated exposure may cause skin dryness or cracking.
<b>EUH204</b>	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
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  14. Regulation (EU) 2018/669 (XI Atp. CLP)
  15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
  16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
  - Handling Chemical Safety
  - 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

**SECTION 16. Other information** ... / >>**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.

Product's classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.

The data for evaluation of chemical-physical properties are reported in section 9.

**Changes to previous review:**

The following sections were modified:

01 / 02 / 03 / 08 / 09 / 10 / 11 / 12 / 15.

Changed TLVs in section 8.1 for following countries:

DEU,