

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Mixture identification:

Trade name: ACR Hardener

Trade code: **CTN52**

UFI: TPAD-P25F-H00Q-N1D0

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

Recommended use: Surface coating

Uses advised against: Use only for explicitly recommended uses.

1.3. Details of the supplier of the safety data sheet

Company: Sirca S.p.A.

Viale Roma, 85

35010 Sandono di Massanzago (PD) - ITALY

Tel. +39 0499322311

Email: safety@sirca.it

1.4. Emergency telephone number

National Poisons Information Centre:

Phone +353 (0) 1 809 2566

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) n. 1272/2008 (CLP)**

Flam. Liq. 2 Highly flammable liquid and vapour.

Eye Irrit. 2 Causes serious eye irritation.

Skin Sens. 1 May cause an allergic skin reaction.

STOT SE 3 May cause respiratory irritation.

STOT SE 3 May cause drowsiness or dizziness.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements**Regulation (EC) No 1272/2008 (CLP):****Hazard pictograms and Signal Word**

Danger

Hazard statements

H225 Highly flammable liquid and vapour.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Contains

Hexamethylene diisocyanate,
oligomerisation product

2-methoxy-1-methylethyl acetate

hexamethylene-di-isocyanate May produce an allergic reaction.

Special provisions according to Annex XVII of REACH and subsequent amendments:

As from 24 August 2023 adequate training is required before industrial or professional use.

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$

Other Hazards: No other hazards

This product contains isocyanates. Producer's specifications are as follows: ready-to-use paints containing isocyanates may irritate mucosae, particularly those of the respiratory system, and may give rise to hypersensitivity reactions. Vapour or aerosol inhalation may lead to sensitization. Please take all the measures used for all solvent-containing paints while manipulating isocyanate-containing paints. Avoid vapour and aerosol inhalation. People with allergic or asthmatic precedents or subject to respiratory disorders should not handle paints containing isocyanates.

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: ACR Hardener

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
25-48 %	ethyl acetate	CAS:141-78-6 EC:205-500-4 Index:607-022-00-5	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066 Acute Toxicity Estimate : ATE - Oral : 4934 mg/kg bw ATE - Dermal : 20000 mg/kg bw ATE - Inhalation (Vapours) : 29.3 mg/l	01-2119475103-46-xxxx
25-48 %	Hesamethylene diisocyanate, oligomerisation product	CAS:28182-81-2	Acute Tox. 4, H332; STOT SE 3, H335; Skin Sens. 1, H317 Acute Toxicity Estimate : ATE - Oral : 5000 mg/kg bw ATE - Dermal : 2000 mg/kg bw ATE - Inhalation (Vapours) : 400 mg/l	
9.9-12.5 %	n-butyl acetate	CAS:123-86-4 EC:204-658-1 Index:607-025-00-1	Flam. Liq. 3, H226; STOT SE 3, H336, EUH066 Acute Toxicity Estimate : ATE - Oral : 10736 mg/kg bw ATE - Dermal : 14000 mg/kg bw ATE - Inhalation (Vapours) : 21 mg/l	01-2119485493-29-xxxx
5-7 %	2-methoxy-1-methylethyl acetate	CAS:108-65-6 EC:203-603-9 Index:607-195-00-7	Flam. Liq. 3, H226; STOT SE 3, H336 Acute Toxicity Estimate : ATE - Oral : 8532 mg/kg bw	01-2119475791-29-xxxx

			ATE - Dermal : 5000 mg/kg bw ATE - Inhalation (Vapours) : 23.8 mg/l	
3-5 %	xylene [isomer mixture]	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226; Asp. Tox. 1, H304; Eye Irrit. 2, H319; STOT SE 3, H335; STOT RE 2, H373; Skin Irrit. 2, H315; Acute Tox. 4, H312; Acute Tox. 4, H332	01-2119488216-32-xxxx
			Acute Toxicity Estimate : ATE - Oral : 3523 mg/kg bw ATE - Dermal : 1100 mg/kg bw ATE - Inhalation (Vapours) : 11 mg/l	
2.5-3 %	toluene	CAS:108-88-3 EC:203-625-9 Index:601-021-00-3	Flam. Liq. 2, H225; Skin Irrit. 2, H315; STOT SE 3, H336; STOT RE 2, H373; Asp. Tox. 1, H304; Repr. 2, H361; Aquatic Chronic 3, H412	01-2119471310-51-xxxx
			Acute Toxicity Estimate : ATE - Oral : 5000 mg/kg bw ATE - Dermal : 12267 mg/kg bw ATE - Inhalation (Vapours) : 25.7 mg/l	
0.5-1 %	ethylbenzene	CAS:100-41-4 EC:202-849-4 Index:601-023-00-4	Flam. Liq. 2, H225; Acute Tox. 4, H332; STOT RE 2, H373; Asp. Tox. 1, H304	01-2119489370-35-xxx
			Acute Toxicity Estimate : ATE - Oral : 3500 mg/kg bw ATE - Dermal : 15400 mg/kg bw ATE - Inhalation (Vapours) : 17.8 mg/l	
0.1-0.2 %	hexamethylene-di-isocyanate	CAS:822-06-0 EC:212-485-8 Index:615-011-00-1	Acute Tox. 4, H302; Eye Irrit. 2, H319; Acute Tox. 2, H330; STOT SE 3, H335; Skin Irrit. 2, H315; Resp. Sens. 1, H334; Skin Sens. 1, H317	01-2119457571-37-xxxx
			Specific Concentration Limits: C ≥ 0,5%: Resp. Sens. 1 H334 C ≥ 0,5%: Skin Sens. 1 H317	
			Acute Toxicity Estimate: ATE - Oral: 746mg/kg bw ATE - Dermal: 7000mg/kg bw ATE - Inhalation (Vapours): 0.124mg/l	

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose off safely.

In case of eyes contact:

Do not use eyewash or ointment of any kind (before obtaining an examination or advice from an eye specialist).

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

In case of inhalation, consult a doctor immediately and show him packing or label.

Remove casualty to fresh air and keep warm and at rest.

If breathing is irregular or stopped, administer artificial respiration.

In sensitized subjects, a reaction may occur even at minimal concentrations of diisocyanates.

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

Respiratory tract irritation

Eye damages

Skin Irritation

Contact a poisons centre

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

In case of fire: Use CO₂, Foam, Chemical powders For extinction.

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Cool the containers exposed to the fire with water.

5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Wear personal protection equipment.

Remove all sources of ignition.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Collect the spilled product with no-sparking tools.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Eliminate all unguarded flames and possible sources of ignition. Do not smoke.

Suitable material for taking up: absorbing material, organic, sand

Collect spilled material with non-sparking equipment.

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep away from flame and sparks. Avoid accumulating electrostatic charge.

Place recipients on the ground whilst decanting, and wear anti-static clothing and shoes.

Avoid contact with skin and eyes, inhalation of vapours and mists.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
 Work clothes must be changed before entering the dining areas.
 Do not eat or drink while working.
 Do not smoke while working.
 See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.

Store at below 30 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.

Incompatible materials:

Avoid contact with combustible materials. The product could catch fire.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

No further recommendations. Refer to point 1.2

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour	Notes
ethyl acetate CAS: 141-78-6	National	NEW ZEALAND	200,000	200,000				
	(OEL (IT))	ITALY	734,000	200,000	1469,000	400,000		
	ACGIH			400,000				
	National	IRELAND	734,000	200,000	1468,000	400,000		
	EU		734	200	1468	400		
Hesamethylene diisocyanate, oligomerisation product CAS: 28182-81-2	(OEL (IT))		1,000					
	NIOSH	CHINA	200,000		300,000			
n-butyl acetate CAS: 123-86-4	ACGIH			50,000		150,000		Eye and URT irr
	(OEL (IT))	ITALY	241,000	50,000	723,000	150,000		
	TWA (Italia)			150,000		200,000		
	National	IRELAND	241,000	50,000	723,000	150,000		
	EU		241	50	723	150		
2-methoxy-1-methylethyl acetate CAS: 108-65-6	National		275,000	50,000	550,000	100,000		
	(OEL (IT))		275,000	50,000	550,000	100,000	Binding	skin
	EU		275	50	550	100		Skin
xylene [isomer mixture] CAS: 1330-20-7	(OEL (IT))						Binding	skin
	National	IRELAND	221,000	50,000	442,000	100,000		
	National	CHINA	50,000		100,000			
	ACGIH			100,000		150,000		A4, BEI - URT and eye irr, CNS impair
	EU		221	50	442	100		Skin

	(OEL (IT))	ITALY	221,000	50,000	442,000		
toluene CAS: 108-88-3	National	IRELAND	192,000	50,000	384,000	100,000	skin.oto.bio
	National	NEW ZEALAND	75,000	20,000	377,000	100,000	skin.oto.bio
	National	CHINA	50,000		100,000		
	(OEL (IT))	ITALY	192,000	50,000			Binding skin
	ACGIH			20,000			A4, BEI - Visual impair, female repro, pregnancy loss
	EU		192	50	384	100	Skin
ethylbenzene CAS: 100-41-4	National	ITALY	100,000	20,000	200,000		A3. IBE
	ACGIH		100,000	20,000	200,000		A3, BEI - URT irr, kidney dam (nephropathy), cochlear impair
	National	IRELAND	442,000	100,000	884,000	200,000	
	National	NEW ZEALAND	88,000	20,000	176,000	40,000	skin;oto
	National	CHINA	100,000		150,000		
	EU		442	100	884	200	Skin
hexamethylene-di- isocyanate CAS: 822-06-0	TWA	CHINA (Italia)		0,030			
	TWA (Italia)		0,034	0,005			
	EU		0,006		0,012		Skin; Dermal and respiratory sensitisation

Predicted No Effect Concentration (PNEC) values

	PNEC Limit	Exposure Route	Exposure Frequency	Remark
ethyl acetate CAS: 141-78-6	0,26 mg/l	Fresh Water		
	0,026 mg/l	Marine water		
	1,25 mg/kg	Freshwater sediments		
	0,125 mg/kg	Marine water sediments		
	0,24 mg/kg	Soil (agricultural)		
	200 mg/kg	orally (secondary poisoning)		
	650 mg/l	STP		
Hesamethylene diisocyanate, oligomerisation product CAS: 28182-81-2	6,46 mg/l	STP		
	127 µg/L	Fresh Water		
	12,7 µg/L	Marine water		
	1270 µg/L	Intermittent releases (fresh water)		
	266700 mg/kg	Freshwater sediments		
	53200 mg/kg	Soil		
n-butyl acetate CAS: 123-86-4	0,18 mg/l	Fresh Water		
	0,018 mg/l	Marine water		
	0,981 mg/kg	Freshwater sediments		
	0,098 mg/kg	Marine water sediments		

2-methoxy-1-methylethyl acetate CAS: 108-65-6	0,09 mg/kg	Soil (agricultural)	
	35,6 mg/l	STP	
	0,635 mg/l	Fresh Water	
xylene [isomer mixture] CAS: 1330-20-7	0,064 mg/l	Marine water	
	0,329 mg/kg	Marine water sediments	dry
	3,29 mg/kg	Freshwater sediments	dry
	0,29 mg/kg	Soil (agricultural)	dry
	100 mg/l	STP	
	0,327 mg/l	Fresh Water	
toluene CAS: 108-88-3	0,327 mg/l	Fresh Water	
	0,327 mg/l	occasional emission	
	6,58 mg/l	Microorganisms in sewage treatments	
	2,31 mg/kg	Soil (agricultural)	dry
	12,46 mg/kg	Marine water sediments	dry
	12,46 mg/kg	Freshwater sediments	dry
ethylbenzene CAS: 100-41-4	0,68 mg/l	Fresh Water	
	0,68 mg/l	Marine water	
	2,89 mg/kg	Soil (agricultural)	
	16,39 mg/l	Marine water sediments	
	16,39 mg/l	Freshwater sediments	
	13,61 mg/l	STP	
hexamethylene-di-isocyanate CAS: 822-06-0	0,1 mg/l	Fresh Water	
	0,01 mg/l	Marine water	
	13,7 mg/l	Freshwater sediments	
	13,7 mg/l	Marine water sediments	
	0,1 mg/l	occasional emission	
	0,008 mg/l	Marine water	
	0,077 mg/l	Fresh Water	
	0,013 mg/kg	Freshwater sediments	Dry weight
	0,001 mg/kg	Marine water sediments	Dry weight
	0,003 mg/kg	Soil (agricultural)	Dry weight
	8,42 mg/l	Microorganisms in sewage treatments	

Derived No Effect Level (DNEL) values

	Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency	Remark
ethyl acetate CAS: 141-78-6	1468 mg/m3		734 mg/m3	Human Inhalation	Short Term, systemic effects	
	1468 ppm			Human Inhalation	Short Term (acute)	
	63 mg/Kg-bw/day			Human Dermal	Long Term, systemic effects	
	734 mg/m3			Human Inhalation	Long Term, local effects	
	734 mg/m3			Human Inhalation	Long Term, systemic effects	
			4,5 mg/Kg-bw/day	Human Oral	Long Term, systemic effects	
			734 mg/m3	Human Inhalation	Short Term (acute)	

			734 mg/m3	Human Inhalation	Long Term, systemic effects
			37 mg/Kg-bw/day	Human Dermal	Long Term, local effects
			367 mg/m3	Human Inhalation	Short Term, local effects
			367 mg/m3	Human Inhalation	Long Term, systemic effects
Hesamethylene diisocyanate, oligomerisation product CAS: 28182-81-2	0,5 mg/m3			Human Inhalation	Long Term, local effects
n-butyl acetate CAS: 123-86-4	1 mg/m3	600 mg/m3	1 mg/m3	Human Inhalation	Short Term, systemic effects
				Human Inhalation	Short Term, local effects
				Human Inhalation	Short Term, local effects
		300 mg/m3		Human Inhalation	Long Term, local effects
		11 mg/kg		Human Dermal	Long Term, systemic effects
		11 mg/kg		Human Dermal	Short Term, systemic effects
			300 mg/kg	Human Inhalation	Short Term, local effects
			35,7 mg/m3	Human Inhalation	Long Term, local effects
			6 mg/kg	Human Dermal	Short Term, systemic effects
2-methoxy-1-methylethyl acetate CAS: 108-65-6			2 mg/kg	Human Oral	Long Term, systemic effects
			2 mg/kg	Human Oral	Short Term, systemic effects
		153,5 mg/kg		Human Dermal	Long Term, systemic effects
		275 mg/m3		Human Inhalation	Long Term, systemic effects
			54,8 mg/kg/day	Human Dermal	Long Term, systemic effects
xylene [isomer mixture] CAS: 1330-20-7			33 mg/m3	Human Inhalation	Long Term, systemic effects
			1,67 mg/kg/day	Human Oral	Long Term, systemic effects
	180 mg/Kg-bw/day			Human Dermal	Long Term, systemic effects
	77 mg/m3		14,8 mg/m3	Human Inhalation	Long Term, systemic effects
			108 mg/Kg-bw/day	Human Dermal	Long Term, systemic effects
			1872 mg/m3	Human Inhalation	Long Term, local effects
			12,5 mg/Kg-bw/day	Human Oral	Long Term, systemic effects
toluene CAS: 108-88-3	289 mg/m3		174 mg/m3	Human Inhalation	Short Term, systemic effects
	289 mg/m3		174 mg/m3	Human Inhalation	Short Term, local effects
			226 mg/m3	Human Inhalation	Short Term, systemic effects

	226 mg/m3	Human Inhalation	Short Term, local effects
	226 mg/m3	Human Dermal	Long Term, systemic effects
	56,5 mg/m3	Human Inhalation	Long Term, systemic effects
	8,13 mg/Kg-bw/day	Human Oral	Long Term, systemic effects
	384 mg/kg/day	Human Dermal	Long Term, systemic effects
	384 mg/m3	Human Inhalation	Short Term, systemic effects
	192 mg/m3	Human Inhalation	Long Term, systemic effects
	180 mg/kg/day	Human Dermal	Long Term, systemic effects
	293 mg/m3	Human Inhalation	Short Term, local effects
	77 mg/m3	Human Inhalation	Long Term, systemic effects
ethylbenzene CAS: 100-41-4	0,07 mg/m3	Human Inhalation	Short Term, systemic effects
	0,035 mg/m3	Human Inhalation	Long Term, systemic effects
	0,035 mg/m3	Human Inhalation	Long Term, local effects
	0,07 mg/m3	Human Inhalation	Short Term, local effects

8.2. Exposure controls

Hygienic and Technical measures

Handle according to good hygiene and safety standards, observing the usual precautions for handling chemical products.

Use adequate ventilation/extraction in the working environment.

The choice of personal protective equipment is left to the provisions of the chemical risk assessment.

Eye protection:

Use eye protection devices. Example: closed safety visors, goggles with side protection. Do not wear contact lenses.

Protection for skin:

Wear work clothes with long sleeves and safety footwear. It is recommended to wear protective overgarments with antistatic properties.

Protection for hands:

Due to the synergistic effect of the substances contained in the formulation it is not possible to identify a single material capable of resisting their combination. Multilayer protective gloves for mixtures of substances may be suitable. Always refer to the protection degree and permeation rate data provided by the glove manufacturer with regard to the substances listed in point 3 of this sheet.

Example:

Butyl: Provides resistance to acids, alcohols, aldehydes, ketones, carboxylic acids and glycol esters. Thickness >0.35 mm; permeation time >240 min.

Viton: Provides resistance to aliphatic, halogenated and aromatic hydrocarbons, alcohols, carboxylic acids, glycol ethers and esters and mineral acids. Thickness >0.35 mm; permeation time >240 min.

Nitrile: Provides resistance from bases, oils, alcohols, aliphatic hydrocarbon solvents, fats and glycol ethers. Thickness >0.35 mm; permeation time >240 min.

Respiratory protection:

Use respiratory protection where ventilation is insufficient or exposure is prolonged.

Use an adequate respiratory protection device, e.g. A2 or in case of presence of dust/aerosols A2P2 or A2P3 .

Thermal Hazards:

N.A.

Environmental exposure controls:

Take all technical precautions necessary to avoid the spread of the product in the surrounding environment.

Check that emissions into the atmosphere comply with current legislation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid

Appearance and colour: Liquid transparent

Odour: characteristic
Odour threshold: Not available for the mixture.
pH: N.A.
Kinematic viscosity: $\leq 20,5 \text{ mm}^2/\text{sec}$ (40 °C)
Melting point / freezing point: $> 1 \text{ °C}$ / $< 0 \text{ °C}$
Initial boiling point and boiling range: $> 55 \text{ °C}$
Flash point: $< 23^\circ\text{C}$
Upper/lower flammability or explosive limits: 20.00 % v/v (UEL). 1.00 % v/v (LEL). (Refer to Substances)
Vapour density: $> 1,2 \text{ kg/mc}$
Vapour pressure: Some contained substances may have vapor pressure $\geq 0.1 \text{ kPa}$. Refer to the percentage of Volatile Organic Compounds in section 15.
Relative density: 0.94 kg/l
Solubility in water: Insoluble
Solubility in oil: Soluble
Partition coefficient (n-octanol/water): N.A. to mixtures.
Auto-ignition temperature: 250 °C
Decomposition temperature: N.A.
Flammability: The product is classified Flam. Liq. 2 H225
Particle characteristics:
Particle size: N.A.

9.2. Other information

Viscosity: 12.00 s (" Din cup # 4)
No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Avoid accumulating electrostatic charge.
Vapours can form explosive mixtures with air.

10.5. Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

10.6. Hazardous decomposition products

vapours potentially dangerous to health may be released.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicological Information of the Preparation

a) acute toxicity	Not classified Based on available data, the classification criteria are not met
b) skin corrosion/irritation	Not classified Based on available data, the classification criteria are not met
c) serious eye damage/irritation	The product is classified: Eye Irrit. 2(H319)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 1(H317)
e) germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified Based on available data, the classification criteria are not met
h) STOT-single exposure	The product is classified: STOT SE 3(H335), STOT SE 3(H336)
i) STOT-repeated exposure	Not classified Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified

Toxicological information on main components of the mixture:

ethyl acetate	a) acute toxicity	ATE - Oral : 4934 mg/kg bw ATE - Dermal : 20000 mg/kg bw ATE - Inhalation (Vapours) : 29.3 mg/l LD50 Skin Rabbit > 20000 mg/kg LD50 Oral Rat = 4934, mg/kg LC50 Inhalation Rat > 29,3 mg/l 4h LD50 Oral Rabbit = 4934 mg/kg body weight	
	b) skin corrosion/irritation	Skin Irritant Skin Rabbit Negative	
	e) germ cell mutagenicity	Genotoxicity Negative	
	j) aspiration hazard	Respiratory Tract Corrosive Inhalation Positive	
Hesamethylene diisocyanate, oligomerisation product	a) acute toxicity	ATE - Oral : 5000 mg/kg bw ATE - Dermal : 2000 mg/kg bw ATE - Inhalation (Vapours) : 400 mg/l LD50 Oral Rat > 2500, mg/kg LC50 Inhalation Rat = 0,39 mg/l 4h LD50 Skin Rabbit > 2000 mg/kg LD50 Skin Rat > 2000, mg/kg	female
n-butyl acetate	a) acute toxicity	ATE - Oral : 10736 mg/kg bw ATE - Dermal : 14000 mg/kg bw ATE - Inhalation (Vapours) : 21 mg/l LC50 Inhalation Rat > 21 mg/l 4h LD50 Oral Rat = 10736 mg/kg LD50 Skin Rabbit > 14000 mg/kg	Method OECD linee guide 402
2-methoxy-1-methylethyl acetate	a) acute toxicity	ATE - Oral : 8532 mg/kg bw ATE - Dermal : 5000 mg/kg bw ATE - Inhalation (Vapours) : 23.8 mg/l LD50 Oral Rat = 6190, mg/kg LC50 Skin Rat > 5000 mg/kg LC50 Inhalation Mist Rat > 23,8 mg/l 6h LD50 Skin Rat > 2000, mg/kg	ECHA
	b) skin corrosion/irritation	Skin Irritant Skin Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit Negative	
	d) respiratory or skin sensitisation	Skin Sensitization Skin Cavia porcellus Negative	
xylene [isomer mixture]	a) acute toxicity	ATE - Oral : 3523 mg/kg bw ATE - Dermal : 1100 mg/kg bw ATE - Inhalation (Vapours) : 11 mg/l LD50 Inhalation Rat = 27 mg/l 4h LD50 Oral Rat = 3523 mg/kg LD50 Skin Rabbit = 12126 mg/kg	
toluene	a) acute toxicity	ATE - Oral : 5000 mg/kg bw ATE - Dermal : 12267 mg/kg bw ATE - Inhalation (Vapours) : 25.7 mg/l	

		LD50 Oral Rat 5000 mg/kg 24h	
		LD50 Skin Rabbit 12267 mg/kg	
		LC50 Inhalation Rat 25,7 mg/l 4h	
		LD50 Skin Rat 5000, mg/kg	
	b) skin corrosion/irritation	Skin Irritant Yes	
ethylbenzene	a) acute toxicity	ATE - Oral : 3500 mg/kg bw ATE - Dermal : 15400 mg/kg bw ATE - Inhalation (Vapours) : 17.8 mg/l LD50 Oral Rat = 3500 mg/kg LD50 Oral Rat = 4710 mg/kg body weight LD50 Skin Rabbit = 15400 mg/kg DZSR_004 Inhalation Rat = 4000 Ppm 4h	
	d) respiratory or skin sensitisation	Skin Sensitization Skin Cavia porcellus Negative	
hexamethylene-di-isocyanate	a) acute toxicity	ATE - Oral : 746 mg/kg bw ATE - Dermal : 7000 mg/kg bw ATE - Inhalation (Vapours) : 0.124 mg/l LD50 Oral Rat = 746 mg/kg LD50 Skin Rabbit > 7000 mg/kg LC50 Inhalation Rat = 0,124 mg/l 4h NOAEL Inhalation Rat 0,035 mg/m3 6h LOAEL Inhalation Rat 0,175 mg/m3 6h	Method: OECD TG 401 Method: OECD TG 402 Method: OECD TG 403 - Conc. del vapore saturo di 1,6-HDI a 25°C 0,095 mg/l Method OECD linee guide 453 Method OECD linee guide 453

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration $\geq 0.1\%$

11.2. Information on other hazards

None known

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of Eco-Toxicological properties of the product

Not classified for environmental hazards.

No data available for the product

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
ethyl acetate	CAS: 141-78-6 - EINECS: 205-500-4 - INDEX: 607-022-00-5	a) Aquatic acute toxicity : LC50 Fish = 220 mg/l 96 a) Aquatic acute toxicity : EC50 Daphnia = 154 mg/l 48 a) Aquatic acute toxicity : EC50 Algae = 3300 mg/l 48 b) Aquatic chronic toxicity : NOEC Algae > 100 mg/l 72
Hexamethylene diisocyanate, oligomerisation product	CAS: 28182-81-2	a) Aquatic acute toxicity : LC50 Fish Brachydanio rerio = 8,9 mg/l 96 a) Aquatic acute toxicity : LC50 Daphnia > 100 mg/l 48 a) Aquatic acute toxicity : ErC50 Algae > 100 mg/l 72 a) Aquatic acute toxicity : EC50 Daphnia = 127 mg/l

n-butyl acetate	CAS: 123-86-4 - EINECS: 204-658-1 - INDEX: 607-025-00-1	a) Aquatic acute toxicity : LC50 Fish = 64 mg/l 48
		a) Aquatic acute toxicity : EC50 Daphnia = 73 mg/l 24
		a) Aquatic acute toxicity : EC50 Algae = 674 mg/l 72
2-methoxy-1-methylethyl acetate	CAS: 108-65-6 - EINECS: 203-603-9 - INDEX: 607-195-00-7	a) Aquatic acute toxicity : LC50 Fish Trota iridea = 134 ml/l 96 - Method OECD linee guide 203
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 408 mg/l 48 - „Method Direttiva 67/548CEE allegato V,C.2
		a) Aquatic acute toxicity : ErC50 Algae > 1000 mg/l 72 - Method OECD TG 209
		b) Aquatic chronic toxicity : NOEC Daphnia > 100 mg/l - „Metodo OECD TG 211, 21 d
		b) Aquatic chronic toxicity : NOEC Fish Oryzias latipes = 47,5 mg/l 14 - Linee Guida 204 per il Test dell'OECD
		b) Aquatic chronic toxicity : NOEC Algae Alghe Cloroficee > 1000 mg/l 96 - Linee Guida 201 per il Test dell'OECD
xylene [isomer mixture]	CAS: 1330-20-7 - EINECS: 215-535-7 - INDEX: 601-022-00-9	a) Aquatic acute toxicity : EC50 Daphnia = 1 mg/l 48
		a) Aquatic acute toxicity : LC50 Fish = 2,6 mg/l 96
		a) Aquatic acute toxicity : LC50 Algae = 2,6 mg/l 73
		b) Aquatic chronic toxicity : NOEC Algae = 0,44 mg/l 73
toluene	CAS: 108-88-3 - EINECS: 203-625-9 - INDEX: 601-021-00-3	a) Aquatic acute toxicity : LC50 Fish = 5,5 ml/l 96
		a) Aquatic acute toxicity : EC50 Algae > 134 ml/l 72
		b) Aquatic chronic toxicity : EC50 Daphnia = 3,78 mg/l 48
ethylbenzene	CAS: 100-41-4 - EINECS: 202-849-4 - INDEX: 601-023-00-4	a) Aquatic acute toxicity : LC50 Fish = 42,3 mg/l 96
		b) Aquatic chronic toxicity : NOEC Daphnia = 0,96 mg/l 48h
hexamethylene-di-isocyanate	CAS: 822-06-0 - EINECS: 212-485-8 - INDEX: 615-011-00-1	a) Aquatic acute toxicity : LC50 Fish Brachydanio rerio = 22 mg/l 96h
		a) Aquatic acute toxicity : ErC50 Algae Desmodesmus subspicatus > 77,4 mg/l
		b) Aquatic chronic toxicity : LOEC Algae Desmodesmus subspicatus = 12,6 mg/l 72h - EU method C.3
		b) Aquatic chronic toxicity : NOEC Algae Desmodesmus subspicatus = 11,7 mg/l 72h - EU method C.3
		a) Aquatic acute toxicity : EC0 Daphnia >= 89,1 mg/l 48 - EU C.2
		a) Aquatic acute toxicity : LC0 Fish Danio rerio >= 82,8 mg/l 96h - EU C.1

No endocrine disruptor substances present in concentration >= 0.1%

12.2. Persistence and degradability

None known

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$

12.6. Endocrine disrupting properties

None known

12.7. Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number or ID number

1263

14.2. UN proper shipping name

ADR-Shipping Name: PAINT

IATA-Shipping Name: PAINT

IMDG-Shipping Name: PAINT

14.3. Transport hazard class(es)

ADR-Class: 3

IATA-Class: 3

IMDG-Class: 3

14.4. Packing group

ADR-Packing Group: II

IATA-Packing group: II

IMDG-Packing group: II

14.5. Environmental hazards

Toxic ingredients quantity: 0.00

Very toxic ingredients quantity: 0.00

Marine pollutant: No

Environmental Pollutant: No

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 3

ADR - Hazard identification number: 33

ADR-Special Provisions: 163 367 640C 650

ADR-Transport category (Tunnel restriction code): 2 (D/E)

Air (IATA):

IATA-Passenger Aircraft: 353

IATA-Cargo Aircraft: 364

IATA-Label: 3

IATA-Subsidiary hazards: -

IATA-Erg: 3L

IATA-Special Provisions: A3 A72 A192

Sea (IMDG):

IMDG-Stowage and handling: Category B

IMDG-Segregation: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 163 367

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-MFAG: N/A

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
Regulation (EU) n. 2017/776 (ATP 10 CLP)
Regulation (EU) n. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)
Regulation (EU) n. 2021/849 (ATP 17 CLP)
Regulation (EU) n. 2022/692 (ATP 18 CLP)
Regulation (EU) n. 2023/707
Regulation (EU) n. 2023/1434 (ATP 19 CLP)
Regulation (EU) n. 2023/1435 (ATP 20 CLP)
Regulation (EU) n. 2024/197 (ATP 21 CLP)
Regulation (EU) n. 2020/878
Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:
 Restrictions related to the product: 3, 40
 Restrictions related to the substances contained: 48, 74, 75
Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
Product belongs to category: P5c	5000	50000
Regulation (EU) No 649/2012 (PIC regulation)		
No substances listed		
German Water Hazard Class.		
Class 3: extremely hazardous.		
SVHC Substances:		
No SVHC substances present in concentration >= 0.1%		

Dir. 2010/75/EC (VOC directive) ; Dir. 2004/42/EC (VOC directive)
Total solid content: 30 - 31 %
Volatile Organic compounds - VOCs = 69 %
Volatile Organic compounds - VOCs = 651 g/L
Of which reactive monomers: 0 %
Total Volatile Organic Carbon (typical value): 41 %
Of which reactive monomers: 0 %
15.2. Chemical safety assessment
No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.

H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
2.6/2	Flam. Liq. 2	Flammable liquid, Category 2
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.1/2/Inhal	Acute Tox. 2	Acute toxicity (inhalation), Category 2
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.1/1	Resp. Sens. 1	Respiratory Sensitisation, Category 1
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.7/2	Repr. 2	Reproductive toxicity, Category 2
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008 Classification procedure

Flam. Liq. 2, H225	On basis of test data
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
STOT SE 3, H335	Calculation method
STOT SE 3, H336	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic
 COD: Chemical Oxygen Demand
 COV: Volatile Organic Compound
 CSA: Chemical Safety Assessment
 CSR: Chemical Safety Report
 DMEL: Derived Minimal Effect Level
 DNEL: Derived No Effect Level.
 DPD: Dangerous Preparations Directive
 DSD: Dangerous Substances Directive
 EC50: Half Maximal Effective Concentration
 ECHA: European Chemicals Agency
 EINECS: European Inventory of Existing Commercial Chemical Substances.
 ES: Exposure Scenario
 GefStoffVO: Ordinance on Hazardous Substances, Germany.
 GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
 IARC: International Agency for Research on Cancer
 IATA: International Air Transport Association.
 IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
 IC50: half maximal inhibitory concentration
 ICAO: International Civil Aviation Organization.
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
 IMDG: International Maritime Code for Dangerous Goods.
 INCI: International Nomenclature of Cosmetic Ingredients.
 IRCCS: Scientific Institute for Research, Hospitalization and Health Care
 KAFH: KAFH
 KSt: Explosion coefficient.
 LC50: Lethal concentration, for 50 percent of test population.
 LD50: Lethal dose, for 50 percent of test population.
 LDLo: Leathal Dose Low
 N.A.: Not Applicable
 N/A: Not Applicable
 N/D: Not defined/ Not available
 NA: Not available
 NIOSH: National Institute for Occupational Safety and Health
 NOAEL: No Observed Adverse Effect Level
 OSHA: Occupational Safety and Health Administration
 PBT: Persistent, Bioaccumulative and Toxic
 PGK: Packaging Instruction
 PNEC: Predicted No Effect Concentration.
 PSG: Passengers
 RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
 STEL: Short Term Exposure limit.
 STOT: Specific Target Organ Toxicity.
 TLV: Threshold Limiting Value.
 TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
 vPvB: Very Persistent, Very Bioaccumulative.
 WGK: German Water Hazard Class.

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Paragraphs modified from the previous revision:

- SECTION 3: Composition/information on ingredients
- SECTION 11: Toxicological information
- SECTION 16: Other information

Fac-simile label

ACR Hardener

Regulation (EC) No 1272/2008 (CLP):

Hazard pictograms and Signal Word



Danger

Hazard statements

H225	Highly flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
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 dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P370+P378	In case of fire: Use CO ₂ , Foam, Chemical powders For extinction.
P403+P235	Store in a well-ventilated place. Keep cool.

Contains

ethyl acetate

Hexamethylene diisocyanate,
oligomerisation product

n-butyl acetate

2-methoxy-1-methylethyl acetate

hexamethylene-di-isocyanate May produce an allergic reaction.

As from 24 August 2023 adequate training is required before industrial or professional use.

QUANTITY:

SUPPLIER: