

## Safety Data Sheet

### PRIMER PU 60

Safety Data Sheet dated: 06/02/2020 - version 2



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

### 1.1. Product identifier

Mixture identification:

Trade name: PRIMER PU 60

Trade code: 901047

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

Recommended use: Terminated NCO polymer

Uses advised against: Data not available

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

Company: MAPEI S.p.A. - Via Cafiero, 22 - 20158 Milano

Tel: +39-02-376731

Fax: +39-02-37673.214

Responsible: sicurezza@mapei.it

### 1.4. Emergency telephone number

Poison Centre - Ospedale di Niguarda - Milan - Tel. +39/02/66101029

MAPEI S.p.A. - Tel. +(39)02376731 - (office hours)

## SECTION 2: Hazards identification



### 2.1. Classification of the substance or mixture

#### Regulation (EC) n. 1272/2008 (CLP)

Flam. Liq. 3	Flammable liquid and vapour.
Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Resp. Sens. 1	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1	May cause an allergic skin reaction.
Carc. 2	Suspected of causing cancer.
STOT SE 3	May cause respiratory irritation.
STOT SE 3	May cause drowsiness or dizziness.
STOT RE 2	May cause damage to organs through prolonged or repeated exposure.
Aquatic Chronic 3	Harmful to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

#### Regulation (EC) n. 1272/2008 (CLP)

#### Pictograms and Signal Words



Danger

#### Hazard statements:

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements:**

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with applicable regulations.

**Special Provisions:**

- EUH208 Contains prepolymer based on aromatic polyisocyanate. May produce an allergic reaction.
- EUH208 Contains 4,4'-Methylenediphenyl diisocyanate, oligomers. May produce an allergic reaction.
- EUH208 Contains 4-isocyanatesulphonyltoluene;-tosyl isocyanate. May produce an allergic reaction.
- EUH204 Contains isocyanates. May produce an allergic reaction.

**Contains:**

diphenylmethanediisocyanate isomers and homologues

o-(p-isocyanatobenzyl)phenyl isocyanate;  
diphenylmethane-2,4'-diisocyanate

4,4'-methylenediphenyl diisocyanate;  
diphenylmethane-4,4'-diisocyanate

n-butyl acetate

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

None

**2.3. Other hazards**

No PBT/vPvB Ingredients are present

Other Hazards: No other hazards

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**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

N.A.

**3.2. Mixtures**

Mixture identification: PRIMER PU 60

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

Quantity	Name	Ident. Numb.	Classification	Registration Number
≥25 - <50 %	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	01-2119485493-29-xxxx
≥25 - <50 %	prepolymer based on aromatic polyisocyanate	CAS:67815-87-6 EC:642-899-8	Resp. Sens. 1, H334; Skin Sens. 1, H317; Aquatic Chronic 3, H412	
≥10 - <20 %	diphenylmethanediisocyanate isomers and homologues	CAS:9016-87-9 EC:618-498-9 Index:615-005-00-9	Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335; Skin Irrit. 2, H315; Resp. Sens. 1,1A,1B, H334; Skin Sens. 1,1A,1B, H317; STOT RE 2, H373; Carc. 2, H351	
≥5 - <10 %	o-xylene	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226; Asp. Tox. 1, H304; STOT RE 2, H373; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	01-2119488216-32-XXXX
≥5 - <10 %	o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate	CAS:5873-54-1 EC:227-534-9 Index:615-005-00-9	Carc. 2, H351; STOT RE 2, H373; Eye Irrit. 2, H319; STOT SE 3, H335; Skin Irrit. 2, H315; Resp. Sens. 1,1A,1B, H334; Skin Sens. 1,1A,1B, H317; Acute Tox. 4, H332	01-2119480143-45-0000

≥5 - <10 %	4,4'-Methylenediphenyl diisocyanate, oligomers	CAS:25686-28-6 EC:500-040-3	Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335; Skin Irrit. 2, H315; Resp. Sens. 1,1A,1B, H334; Skin Sens. 1,1A,1B, H317; STOT RE 2, H373; Carc. 2, H351	01-2119457013-49-XXXX
≥2.5 - <5 %	4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	CAS:101-68-8 EC:202-966-0 Index:615-005-00-9	Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335; Skin Irrit. 2, H315; Resp. Sens. 1,1A,1B, H334; Skin Sens. 1,1A,1B, H317; STOT RE 2, H373; Carc. 2, H351	01-2119457014-47-XXXX
≥1 - <2.5 %	ethylbenzene	CAS:100-41-4 EC:202-849-4	Flam. Liq. 2, H225; Acute Tox. 4, H332; Asp. Tox. 1, H304; STOT RE 2, H373	
≥0.25 - <0.49 %	4-isocyanatesulphonyltoluene;-tosyl isocyanate	CAS:4083-64-1 EC:223-810-8 Index:615-012-00-7	Eye Irrit. 2, H319; STOT SE 3, H335; Skin Irrit. 2, H315; Resp. Sens. 1,1A,1B, H334, EUH014	01-2119980050-47-xxxx

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

- Immediately take off all contaminated clothing.
- Remove contaminated clothing immediately and dispose of safely.
- After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

- 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 the hazard label.

In case of Inhalation:

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

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

Eye irritation  
Eye damages  
Skin Irritation  
Erythema

### 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).

Treatment:

- (see paragraph 4.1)

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media:

- CO2 or Dry chemical fire extinguisher.

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.

### 5.3. Advice for firefighters

- Use suitable breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- Wear personal protection equipment.
- Remove all sources of ignition.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.
- Provide adequate ventilation.
- Use appropriate respiratory protection.

### 6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Limit leakages with earth or sand.

### 6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand  
Retain contaminated washing water and dispose it.

### 6.4. Reference to other sections

See also section 8 and 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

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.  
Contaminated clothing should be changed before entering eating areas.  
Do not eat or drink while working.  
See also section 8 for recommended protective equipment.

### 7.2. Conditions for safe storage, including any incompatibilities

Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.  
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.  
Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

### 7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### List of components with OEL value

Component	OEL Type	Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour	Note
n-butyl acetate	SUVA	NNN		480	100	960	200		
	National	SWEDEN		500	100	700	150		SWEDEN, Short-term value, 15 minutes average value
	NDS	NNN		200					
	NDSch	NNN		950					
	ACGIH	NNN			50		150		Eye and URT irr
	National	NORWAY		710	150	1420	300		
	DFG	GERMANY	C			960	200		
	ACGIH				50		150		eye and upper respiratory tract irritation (listed under Butyl acetates, all isomers)
	National	SWEDEN		500	100				
	National	FRANCE		710	150	940	200		
	National	SPAIN		724	150	965	200		
	National	GREECE		710	150	950	200		
	National	DENMARK		710	150				
	National	FINLAND		720	150	960	200		
	National	GERMANY		300	62				
	National	PORTUGAL			150		200		
National	BELGIUM		723	150	964	200			
NDS	POLAND		240						

	NDSCh	POLAND			720			
	CHE	SWITZERLAND			960	200		
	National	CZECH REPUBLIC	950					
	National	HUNGARY	950		950			
	Malaysia OEL	MALAYSIA	713	150				
	National	LATVIA	200					
	National	CZECH REPUBLIC		C		1200		
	National	SLOVAKIA		C		700		
	National	SLOVAKIA	500		100			
	National	SLOVENIA	480		100	480	100	
	National	UNITED KINGDOM	724		150	966	200	
	National	BULGARIA	710			950		
	National	ROMANIA	715		150	950	200	
	National	CROATIA	724		150	966	200	
diphenylmethanediisocyanate isomers and homologues	DFG	GERMANY		C		0,050		
	National	GERMANY	0,050					
o-xylene	National	SWEDEN	221		50	442	100	SWEDEN, Short term value, 15 minutes average value
	National	FINLAND	220		50	440	100	FINLAND, hud
	National	NORWAY	108		25			NORWAY, H
	EU	NNN	221		50	442	100	Skin
	National	NORWAY	109		25	218	50	
	ACGIH	NNN			100		150	A4, BEI - URT and eye irr, CNS impair
	DFG	GERMANY		C		880	200	
	ACGIH				100		150	A4 - Not Classifiable as a Human Carcinogen; CNS impairment; eye and upper respiratory tract irritation
	National	SWEDEN	221		50			
	National	FRANCE	221		50	442	100	
	National	SPAIN	221		50	442	100	
	National	GREECE	435		100	650	150	
	National	DENMARK	109		25			
	National	FINLAND	220		50	440	100	
	National	GERMANY	440		100			
	National	PORTUGAL	221		50	442	100	
	National	NORWAY	108		25	135	37,5	
	National	BELGIUM	221		50	442	100	
	NDS	POLAND	100					
	NDSCh	POLAND				200		
	CHE	SWITZERLAND				870	200	
	NDS	NETHERLANDS	210			442		
	National	CZECH REPUBLIC	200					
	National	HUNGARY	221			442		
	Malaysia OEL	MALAYSIA	434		100			
	National	ESTONIA	200		50	450	100	

	National	LATVIA		221	50	442	100		
	National	CZECH REPUBLIC	C			400			
	National	SLOVAKIA	C			442			
	National	SLOVAKIA		221	50				
	National	SLOVENIA		221	50	442	100		
	National	UNITED KINGDOM		220	50	441	100		
	National	BULGARIA		221,0	50	442	100		
	National	ROMANIA		221	50	442	100		
	TUR	TURKEY		221	50	442	100		
	National	LITHUANIA		221	50	442	100		
	National	CROATIA		221	50	442	100		
	EU			221	50	442	100	Indicative	Possibility of significant uptake through the skin (pure)
o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate		NNN		0,03					
	NDSCh	NNN		0,09					
	National	GERMANY		0,05					
	NDS	POLAND		0,03					
	NDSCh	POLAND				0,09			
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	National	NORWAY		0,050	0,005				A 4
	SUVA	NNN		0,020		0,020			
	National	SWEDEN	C	0,030	0,002	0,050	0,005		SWEDEN, Ceiling limit value
	NDS	NNN		0,030					
	NDSP	NNN		0,090					
	ACGIH	NNN			0,005				Resp sens
	National	POLAND		0,030		0,090			
	National	AUSTRIA		0,050	0,005	0,100	0,010		
	DFG	GERMANY	C			0,050			
	ACGIH	NNN			0,005				respiratory sensitization (listed under Methylene bisphenyl isocyanate (MDI))
	National	SWEDEN		0,030	0,002				
	National	FRANCE		0,100	0,010	0,200	0,020		
	National	SPAIN		0,052	0,005				
	National	DENMARK		0,050	0,005				
	National	GERMANY		0,050					
	National	PORTUGAL			0,005				
	National	BELGIUM		0,052	0,005				
	NDS	POLAND		0,030					
	NDSCh	POLAND				0,090			
	National	CZECH REPUBLIC		0,050					
	National	HUNGARY		0,05		0,050			
	Malaysia OEL	MALAYSIA		0,051	0,005				
	National	ESTONIA		0,050	0,005	0,100	0,010		
	National	CZECH	C			0,100			

		REPUBLIC						
ethylbenzene	National	SLOVAKIA	0,002					
	National	SLOVAKIA	0,030					
	National	SLOVENIA	0,050		0,050			
	National	ROMANIA			0,150			
	National	LITHUANIA	0,050	0,005				
	National	LITHUANIA	C		0,100	0,010		
	National	SWEDEN	200	50	450	100		SWEDEN, Short-term value, 15 minutes average value
	National	FINLAND	220	50	880	200		FINLAND, hud
	National	NORWAY	20	5				NORWAY, HK
	EU	NNN	442	100	884	200		Skin
	National	NORWAY	217	50	434	100		
	ACGIH	NNN		20				A3, BEI - URT irr, kidney dam (nephropathy), cochlear impair
	National	POLAND	200		400			
	DFG	GERMANY	C		176	40		
	ACGIH			20				A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans; upper respiratory tract irritation; kidney damage (nephropathy); cochlear impairment
	National	SWEDEN	220	50				
	National	FRANCE	88,4	20	442	100		
	National	SPAIN	441	100	884	200		
	National	GREECE	435	100	545	125		
	National	DENMARK	217	50				
National	FINLAND	220	50	880	200			
National	GERMANY	88	20					
National	PORTUGAL	442	100	884	200			
National	NORWAY	20	5	30	10			
National	BELGIUM	442	100	551	125			
NDS	POLAND	200						
NDSch	POLAND			400				
CHE	SWITZERLAND			220	50			
NDS	NETHERLANDS	215		430				
National	CZECH REPUBLIC	200						
National	HUNGARY	442		884				
Malaysia OEL	MALAYSIA	434	100					
National	ESTONIA	442	100	884	200			
National	LATVIA	442	100	884	200			
National	CZECH REPUBLIC	C		500				
National	SLOVAKIA	C		884				
National	SLOVAKIA	442	100					
National	SLOVENIA	442	100	884	200			
National	UNITED KINGDOM	441	100	552	125			
National	BULGARIA	435		545				
National	ROMANIA	442	100	884	200			

TUR	TURKEY	442	100	884	200		
National	LITHUANIA	442	100	884	200		
National	CROATIA	442	100	884	200		
EU		442	100	884	200	Indicative	Possibility of significant uptake through the skin
4-isocyanatesulphonyltoluene;-tosyl isocyanate	SUVA NNN	0,02		0,02			

### Biological Exposure Index

CAS-No.	Component	Value	UoM	Medium	Biological Indicator	Sampling Period
1330-20-7	o-xylene	1,5	GGCREAT	Urine	Methyl uric Acid	End of turn
100-41-4	ethylbenzene	0,15	GGCREAT	Urine	Mandelic acid and fenilgliossalico	End of turn

### Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency	Remark
n-butyl acetate	123-86-4	1,18	Fresh Water		
		0,018	Marine water		
		0,981	Freshwater sediments		
		0,0981	Marine water sediments		
		0,36	Intermittent release		
o-xylene	1330-20-7	0,327	Fresh Water		
		0,327	Marine water		
		12,46	Freshwater sediments		
		12,46	Marine water sediments		
		2,31	Soil		
		6,58	Microorganisms in sewage treatments		
		0,32	Intermittent release		
o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate	5873-54-1	1 mg/l	Fresh Water		
		0,1	Marine water		
		1	Soil		
4,4'-Methylenediphenyl	25686-28-6	1 mg/l	Fresh Water		
		1 mg/l	Microorganisms in sewage treatments		



diisocyanate, oligomers

		0,1 mg/l	Marine water
		1 mg/kg	Soil
		1 mg/l	Microorganisms in sewage treatments
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'- diisocyanate	101-68-8	1 mg/l	Fresh Water
		0,1 mg/l	Marine water
		1 mg/kg	Soil
		1 mg/l	Microorganisms in sewage treatments
		10, 000000 mg/l	Intermittent release
ethylbenzene	100-41-4	0,1 mg/l	Fresh Water
		0,01 mg/l	Marine water
		13,7 mg/kg	Freshwater sediments
		1,37 mg/kg	Marine water sediments
		2,68 mg/kg	Soil
		9,6 mg/l	Microorganisms in sewage treatments

**Derived No Effect Level. (DNEL)**

<b>Component</b>	<b>CAS-No.</b>	<b>Worker Industrial</b>	<b>Worker Professional</b>	<b>Consumer</b>	<b>Exposure Route</b>	<b>Exposure Frequency</b>	<b>Remark</b>		
n-butyl acetate	123-86-4	960 mg/m3			Human Inhalation		Short Term, systemic effects		
					Human Inhalation		Short Term, local effects		
		480 mg/m3			Human Inhalation		Long Term, systemic effects		
					Human Inhalation		Long Term, local effects		
				859,7 mg/m3			Human Inhalation		Short Term, systemic effects
				859,7 mg/m3			Human Inhalation		Short Term, local effects
				102,34 mg/m3			Human Inhalation		Long Term, systemic effects
				102,34 mg/m3			Human Inhalation		Long Term, local effects

o-xylene	1330-20-7	289 mg/m3	174 mg/m3	Human Inhalation	Short Term, local effects
		289 mg/m3	174 mg/m3	Human Inhalation	Short Term, systemic effects
		180 mg/kg	108 mg/kg	Human Dermal	Long Term, systemic effects
		77 mg/m3	14,8 mg/m3	Human Inhalation	Long Term, systemic effects
			1,6 mg/kg	Human Oral	Long Term, systemic effects
o-(p-isocyanatobenzyl) phenyl isocyanate; diphenylmethane-2,4'-diisocyanate	5873-54-1	50 mg/kg	25 mg/kg	Human Dermal	Short Term, systemic effects
		0,1 mg/m3	0,05 mg/m3	Human Inhalation	Short Term, systemic effects
		28,7 mg/cm2	17,2 mg/cm2	Human Dermal	Short Term, local effects
		0,1 mg/m3	0,05 mg/m3	Human Inhalation	Short Term, local effects
		0,05 mg/m3	0,025 mg/m3	Human Inhalation	Long Term, systemic effects
		0,05 mg/m3	0,025 mg/m3	Human Inhalation	Long Term, local effects
4,4'-Methylenediphenyl diisocyanate, oligomers	25686-28-6	50 mg/kg	25 mg/kg	Human Dermal	Short Term, systemic effects
		0,1 mg/m3	0,05 mg/m3	Human Inhalation	Short Term, systemic effects
		0,1 mg/m3	0,05 mg/m3	Human Inhalation	Short Term, local effects
		0,05 mg/m3	0,025 mg/m3	Human Inhalation	Long Term, systemic effects
		0,05 mg/m3		Human Inhalation	Long Term, local effects
		28,7 mg/cm2	17,2 mg/cm2	Human Dermal	Short Term, local effects
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	101-68-8	50 mg/kg		Human Dermal	Short Term, systemic effects
		0,1 mg/m3		Human Inhalation	Short Term, systemic effects
		0,1 mg/m3		Human Inhalation	Short Term, local effects
		0,05 mg/m3		Human Inhalation	Long Term, systemic effects
		0,05 mg/m3		Human Inhalation	Long Term, local effects

		25 mg/kg	Human Dermal	Short Term, systemic effects
		0,05 mg/m3	Human Inhalation	Short Term, systemic effects
		20 mg/kg	Human Oral	Short Term, systemic effects
		0,05 mg/m3	Human Inhalation	Short Term, local effects
		0,025 mg/m3	Human Inhalation	Long Term, systemic effects
		0,025 mg/m3	Human Inhalation	Long Term, local effects
		28,7 mg/cm2	17,2 mg/cm2 Human Dermal	Short Term, local effects
ethylbenzene	100-41-4	180 mg/kg	Human Dermal	
		77 mg/m3	15 mg/m3 Human Inhalation	
			1,6 mg/kg Human Oral	

## 8.2. Exposure controls

### Eye protection:

Use close fitting safety goggles, don't use eye lens.

### Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

### Protection for hands:

Suitable materials for safety gloves; EN 374:

Polychloroprene - CR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Nitrile rubber - NBR: thickness  $\geq 0,35\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Butyl rubber - IIR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Fluorinated rubber - FKM: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Neoprene gloves are suggested (0,5 mm) not recommended gloves: not waterproof gloves

### Respiratory protection:

Personal Protective Equipment should comply with relevant CE standards (as EN 374 for gloves and EN 166 for goggles), correctly maintained and stored. Consult the supplier to check the suitability of equipment against specific chemicals and for user information.

In case of insufficient ventilation use mask with ABEKP filters (EN 14387).

Use adequate protective respiratory equipment.

### Hygienic and Technical measures

N.A.

### Appropriate engineering controls:

N.A.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical State Liquid

Appearance and colour: Liquid Colourless

Odour: Characteristic

Odour threshold: N.A.

pH: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Flash point: 33 °C (91 °F)

Evaporation rate: N.A.

Upper/lower flammability or explosive limits: N.A.

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: 1.03 g/cm<sup>3</sup>

Solubility in water: Insoluble

Partition coefficient (n-octanol/water): N.A. - This product is a mixture  
Auto-ignition temperature: N.A. - No explosive or spontaneous ignition in contact with air at room temperature  
Decomposition temperature: N.A.  
Viscosity: 60.00 cPs  
Explosive properties: N.A. - No components with explosive properties  
Oxidizing properties: N.A. - No component with oxidizing properties  
Solid/gas flammability: N.A.

## 9.2. Other information

No additional information

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## 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

Stable under normal conditions.

### 10.5. Incompatible materials

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

### 10.6. Hazardous decomposition products

None.

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

#### Toxicological information on main components of the mixture:

n-butyl acetate	a) acute toxicity	LC50 Inhalation Rat = 21,1 mg/l 4h LD50 Oral Rat > 6400 mg/kg LD50 Skin Rabbit > 5000 mg/kg LD50 Skin Rabbit > 17600 mg/kg LC50 Inhalation Rat = 390 ppm 4h LD50 Oral Rat = 10768 mg/kg
	g) reproductive toxicity	NOAEC = 2000 ppm
diphenylmethanediisocyanate isomers and homologues	a) acute toxicity	LD50 Oral Rat > 10000 mg/kg  LD50 Skin Rabbit > 9400 mg/kg LC50 Inhalation Dust Rat = mg/l 4h LD50 Skin Rabbit > 9,4 g/kg LC50 Inhalation Rat = 490 mg/m3 4h LD50 Oral Rat = 49 g/kg
	g) reproductive toxicity	NOAEL Inhalation Rat = 12 mg/m3
o-xylene	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg LC50 Inhalation Vapour Rat = 11 mg/l 4h LD50 Skin Rabbit = 3200 mg/kg LD50 Skin Rabbit > 4350 mg/kg LC50 Inhalation Rat = 29,08 mg/l 4h LD50 Oral Rat = 3500 mg/kg
	e) germ cell mutagenicity	NOAEL Inhalation Rat > 2000 ppm
	f) carcinogenicity	NOAEL Oral Rat = 500 mg/kg

		NOAEL Oral Rat = 1000 mg/kg	
	g) reproductive toxicity	NOAEL Inhalation Rat = 500 ppm	
o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate	a) acute toxicity	LD50 Skin Rabbit > 9400 mg/kg	
		LD50 Oral Rat > 2000 mg/kg	
	e) germ cell mutagenicity	NOAEL Inhalation Rat = 12 mg/m3	
4,4'-Methylenediphenyl diisocyanate, oligomers	a) acute toxicity	LC50 Inhalation Mist Rat 0,368 mg/l 4h	
		LD50 Skin Rabbit > 9400 mg/kg	
		LD50 Oral Rat > 5000 mg/kg	
		LC50 Inhalation Mist Rat > 2,24 mg/l 1h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive	
	e) germ cell mutagenicity	NOAEL Inhalation Rat = 12 mg/m3	
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg	
		LD50 Skin Rabbit > 9400 mg/kg	
		LC50 Inhalation Dust Rat = 0,368 mg/l 4h	
		LC50 Inhalation Rat = 369 mg/m3 4h	
		LD50 Oral Rat = 31600 mg/kg	
	b) skin corrosion/irritation	Skin Irritant Skin Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Skin Mouse Positive	
		Respiratory Sensitization Inhalation Positive	
	f) carcinogenicity	Carcinogenicity Inhalation Rat = 6 mg/m3	2 y
	g) reproductive toxicity	NOAEL Inhalation Rat = 12 mg/m3	20 d
ethylbenzene	a) acute toxicity	LD50 Oral Rat = 3500 mg/kg	
		LD50 Skin Rabbit = 15400 mg/kg	
		LC50 Inhalation Rat = 17,2 mg/l 4h	
		LD50 Skin Rabbit = 15400 mg/kg	
		LC50 Inhalation Rat = 17,4 mg/l 4h	
		LD50 Oral Rat = 3500 mg/kg	
4-isocyanatesulphonyltoluene;-tosyl isocyanate	a) acute toxicity	LD50 Oral Rat = 2234 mg/kg	
		LC50 Inhalation Rat > 640 ppm 1h	

**If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.**

- a) acute toxicity
- b) skin corrosion/irritation
- c) serious eye damage/irritation
- d) respiratory or skin sensitisation
- e) germ cell mutagenicity
- f) carcinogenicity
- g) reproductive toxicity
- h) STOT-single exposure

i) STOT-repeated exposure

j) aspiration hazard

## SECTION 12: Ecological information

### 12.1. Toxicity

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

Eco-Toxicological Information:

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### List of components with eco-toxicological properties

Component	Ident. Numb.	Ecotox Infos
n-butyl acetate	CAS: 123-86-4 - EINECS: 204-658-1 - INDEX: 607-025-00-1	a) Aquatic acute toxicity : LC50 Fish = 18 mg/L 96  a) Aquatic acute toxicity : EC50 Daphnia = 44 mg/L 48 a) Aquatic acute toxicity : EC50 Algae = 675 mg/L 72 a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 100 mg/L 96h EPA  a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 17 mg/L 96h EPA a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus = 674,7 mg/L 72h IUCLID
diphenylmethanediisocyanate isomers and homologues	CAS: 9016-87-9 - EINECS: 618-498-9 - INDEX: 615-005-00-9	a) Aquatic acute toxicity : LC50 Fish > 1000 mg/L 96  a) Aquatic acute toxicity : EC50 Daphnia > 1000 mg/L 24 b) Aquatic chronic toxicity : NOEC Daphnia > 10 mg/L - 21 d a) Aquatic acute toxicity : EC50 Algae > 1640 mg/L 72 c) Bacteria toxicity : EC50 > 100 mg/L 3 d) Terrestrial toxicity : NOEC > 1000 mg/kg - 14 d e) Plant toxicity : NOEC > 1000 mg/kg - 14 d
o-xylene	CAS: 1330-20-7 - EINECS: 215-535-7 - INDEX: 601-022-00-9	a) Aquatic acute toxicity : EC50 Daphnia = 165 mg/L 48  a) Aquatic acute toxicity : LC50 Fish > 2 mg/L 96 a) Aquatic acute toxicity : EC50 Algae = 2,2 mg/L 72 c) Bacteria toxicity : EC50 = 96 mg/L 24 b) Aquatic chronic toxicity : NOEC Fish > 1,3 mg/L b) Aquatic chronic toxicity : NOEC Daphnia = 1,57 mg/L a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 13,4 mg/L 96h EPA  a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss 2,661 mg/L 96h EPA  a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss 13,5 mg/L 96h IUCLID  a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus 13,1 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 19 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus 7,711 mg/L 96h EPA  a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 23,53 mg/L 96h EPA  a) Aquatic acute toxicity : LC50 Fish Cyprinus carpio = 780 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Cyprinus carpio > 780 mg/L 96h IUCLID a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata 30,26 mg/L 96h EPA a) Aquatic acute toxicity : EC50 Daphnia water flea = 3,82 mg/L 48h

o-(p-isocyanatobenzyl)phenyl isocyanate; diphenylmethane-2,4'-diisocyanate	CAS: 5873-54-1 - EINECS: 227-534-9 - INDEX: 615-005-00-9	a) Aquatic acute toxicity : LC50 Daphnia Gammarus lacustris = 0,6 mg/L 48h a) Aquatic acute toxicity : LC50 Fish > 1000 mg/L 96
4,4'-Methylenediphenyl diisocyanate, oligomers	CAS: 25686-28-6 - EINECS: 500-040-3	a) Aquatic acute toxicity : EC50 Daphnia > 1000 mg/L 24 b) Aquatic chronic toxicity : NOEC Daphnia > 10 mg/L - 21 d a) Aquatic acute toxicity : EC50 Algae > 1640 mg/L 72 c) Bacteria toxicity : EC50 > 100 mg/L 3 d) Terrestrial toxicity : NOEC > 1000 mg/kg - 14 d e) Plant toxicity : NOEC > 1000 mg/kg - 14 d a) Aquatic acute toxicity : LC50 Fish > 1000 mg/L 96
4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate	CAS: 101-68-8 - EINECS: 202-966-0 - INDEX: 615-005-00-9	a) Aquatic acute toxicity : EC50 Algae > 1640 mg/L 72 a) Aquatic acute toxicity : EC50 Daphnia > 1000 mg/L 24 b) Aquatic chronic toxicity : NOEC Daphnia > 10 mg/L - 21 d c) Bacteria toxicity : EC50 Bacteria > 100 mg/L 3 d) Terrestrial toxicity : NOEC > 1000 mg/kg - 14 d e) Plant toxicity : NOEC > 1000 mg/kg - 14 d a) Aquatic acute toxicity : LC50 Fish > 1000 mg/L 96
ethylbenzene	CAS: 100-41-4 - EINECS: 202-849-4	a) Aquatic acute toxicity : EC50 Daphnia > 1000 mg/L 24 b) Aquatic chronic toxicity : NOEC Daphnia > 10 mg/L - 21 d a) Aquatic acute toxicity : EC50 Algae > 1640 mg/L 72 c) Bacteria toxicity : EC50 > 100 mg/L 3 d) Terrestrial toxicity : NOEC > 1000 mg/kg - 14 d e) Plant toxicity : NOEC > 1000 mg/kg - 14 d a) Aquatic acute toxicity : EC50 Algae = 7,7 mg/L 96  a) Aquatic acute toxicity : LC50 Fish = 5,1 mg/L 96 a) Aquatic acute toxicity : LC50 Daphnia = mg/L 48 a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss 11 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 4,2 mg/L 96h EPA  a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 7,55 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 32 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 9,1 mg/L 96h EPA a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata = 9,6 mg/L 96h EPA a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna 1,8 mg/L 48h IUCLID a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 4,6 mg/L 72h IUCLID  a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata > 438 mg/L 96h IUCLID  a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata 2,6 mg/L 72h EPA  a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata 1,7 mg/L 96h EPA

## 12.2. Persistence and degradability

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 Ingredients are present

## 12.6. Other adverse effects

N.A.

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## 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.

A waste code according to European waste catalogue (EWC) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

Product:

Do not dispose of waste into sewers.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Send to an authorized waste disposal service.

Contaminated packaging:

Empty remaining content.

Dispose of as unused product.

Do not re-use empty containers.

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## SECTION 14: Transport information

### 14.1. UN number

1263

### 14.2. UN proper shipping name

ADR-Shipping Name: PAINT RELATED MATERIAL

IATA-Technical name: PAINT RELATED MATERIAL

IMDG-Technical name: PAINT RELATED MATERIAL

### 14.3. Transport hazard class(es)

ADR-Class: 3,III

IATA-Class: 3,III

IMDG-Class: 3,III

### 14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

### 14.5. Environmental hazards

Marine pollutant: No

Environmental Pollutant: No

### 14.6. Special precautions for user

Road and Rail ( ADR-RID ) :

ADR-Label: 3

ADR-Hazard identification number: NA

ADR-Special Provisions: 163 367 650

ADR-Transport category (Tunnel restriction code): 3 (E)

Air ( IATA ) :

IATA-Passenger Aircraft: 355

IATA-Cargo Aircraft: 366

IATA-Label: 3

IATA-Subsidiary hazards: -

IATA-Erg: 3L

IATA-Special Provisioning: A3 A72 A192

Sea ( IMDG ) :

IMDG-Stowage Code: Category A

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: 163 223 367 955

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-EMS: F-E, S-E



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

N.A.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

VOC (2004/42/EC) : N.A. g/l

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 (EU) 2015/830

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)

Provisions related to directive EU 2012/18 (Seveso III):

<b>Seveso III category according to Annex 1, part 1</b>	<b>Lower-tier threshold (tonnes)</b>	<b>Upper-tier threshold (tonnes)</b>
Products belongs to category P5c	5000	50000

**German Water Hazard Class.**

N.A.

**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: 56

**SVHC Substances:**

No data available

MAL-kode: 5-3 (1993)

**15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out for the mixture.

**SECTION 16: Other information**

<b>Code</b>	<b>Description</b>
EUH014	Reacts violently with water.
EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
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.
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.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

H373 May cause damage to organs through prolonged or repeated exposure if inhaled.  
 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
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), 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
3.4.1/1-1A-1B	Resp. Sens. 1,1A,1B	Respiratory Sensitisation, Category 1,1A,1B
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1-1A-1B	Skin Sens. 1,1A,1B	Skin Sensitisation, Category 1,1A,1B
3.6/2	Carc. 2	Carcinogenicity, 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
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2.6/3	On basis of test data
3.2/2	Calculation method
3.3/2	Calculation method
3.4.1/1	Calculation method
3.4.2/1	Calculation method
3.6/2	Calculation method
3.8/3	Calculation method
3.8/3	Calculation method
3.9/2	Calculation method
4.1/C3	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 SDS 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  
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.

**Paragraphs modified from the previous revision:**

- 2. HAZARDS IDENTIFICATION