

## Safety Data Sheet

Conforms to Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by Commission Regulation (EU) 2020/878

### FACTORY COLOR PU-S (A)

Date of first edition: 5/18/2021

Safety Data Sheet dated 3/30/2023

version 4

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

### 1.1. Product identifier

Mixture identification:

Trade name: FACTORY COLOR PU-S (A)

Trade code: 001033002 -4

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

Recommended use: Coatings and paints, thinners, paint removers

Uses advised against: Not available

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

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel. +39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

### 1.4. Emergency telephone number

European emergency phone number 112

Kerakoll Italy (+39) 0536 816511

Ireland

Poison information centre: (+353) 809 2166 (Daily 8am-10pm)

In case of emergency call 999 or 112

Malta

In case of emergency call: 112 (24h)

## 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.

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

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

#### Pictograms and Signal Words



Warning

#### Hazard statements

H226 Flammable liquid and vapour.

#### Precautionary statements

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

P260 Do not breathe vapours.

P370+P378 In case of fire, use a dry powder fire extinguisher to extinguish.

P501 Dispose of contents/container in accordance with applicable regulations.

**Special Provisions:**

EUH208 Contains 4-morpholinecarbaldehyde. May produce an allergic reaction.

**Dir. 2004/42/EC (VOC directive)**

Two-pack reactive performance coatings for specific end use such as floors

EU limit value for this product (cat. A/j): 500 g/l

This product contains max 340.54 g/l VOC.

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

None

**2.3. Other hazards**

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

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: FACTORY COLOR PU-S (A)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
10-19,9 %	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
5-9,9 %	2-methoxy-1-methylethyl acetate	CAS:108-65-6 EC:203-603-9	Flam. Liq. 3, H226; STOT SE 3, H336	01-2119475791-29
< 0,3 %	4-morpholinecarbaldehyde	CAS:4394-85-8 EC:224-518-3	Skin Sens. 1B, H317	01-2119987993-12

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**SECTION 4: First aid measures****4.1. Description of first aid measures**

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

Wash immediately with water.

In case of Ingestion:

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

In case of Inhalation:

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

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

N.A.

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

N.A.

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**SECTION 5: Firefighting measures****5.1. Extinguishing media**

Suitable extinguishing media:

In case of fire, use a dry powder fire extinguisher to extinguish.

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.

**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.

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## SECTION 6: Accidental release measures

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

- Wear personal protection equipment.
- Remove all sources of ignition.
- Remove persons to safety.
- See protective measures under point 7 and 8.

### 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

- Suitable material for taking up: absorbing material, organic, sand
- Wash with plenty of water.

### 6.4. Reference to other sections

- See also section 8 and 13
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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

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

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
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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Community Occupational Exposure Limits (OEL)

Component	OEL Type	Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Notes
n-butyl acetate	NATIONAL	AUSTRALIA		713.000	150.000	950.000	200.000	
	NATIONAL	AUSTRIA		480.000	100.000	480.000	100.000	
	NATIONAL	BELGIUM		238.000	50.000	712.000	150.000	
	NATIONAL	DENMARK		710.000	150.000	1420.000	300.000	
	NATIONAL	FINLAND		720.000	150.000	960.000	200.000	
	NATIONAL	FRANCE		710.000	150.000	940.000	200.000	
	NATIONAL	GERMANY		300.000	62.000	600.000	124.000	ASG
	NATIONAL	GERMANY		480.000	100.000	960.000	200.000	DFG
	NATIONAL	HUNGARY		950.000		950.000		
	NATIONAL	IRELAND		710.000	150.000	950.000	200.000	
	NATIONAL	LATVIA		200.000				
	NATIONAL	POLAND		200.000		950.000		
	NATIONAL	ROMANIA		715.000	150.000	950.000	200.000	
	NATIONAL	SPAIN		724.000	150.000	965.000	200.000	

2-methoxy-1-methylethyl acetate	NATIONAL	SWEDEN	500.000	100.000	700.000	150.000	
	NATIONAL	SWITZERLAND	480.000	100.000	960.000	200.000	
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	724.000	150.000	966.000	200.000	
	NATIONAL	ITALY	241.000	50.000	723.000	150.000	
	NATIONAL	BULGARIA	710.000		950.000		
	NATIONAL	CZECHIA	950.000		1200.000		
	NATIONAL	CROATIA	724.000	150.000	966.000	200.000	
	NATIONAL	GREECE	710.000	150.000	950.000	200.000	
	NATIONAL	NETHERLANDS	480.000	100.000	480.000	100.000	
	NATIONAL	PORTUGAL		150.000		200.000	
	NATIONAL	SLOVAKIA	500.000	100.000	700.000	150.000	
	NATIONAL	SLOVENIA	300.000	62.000	600.000	124.000	
	EU		241.000	50.000	723.000	150.000	
	ACGIH	NNN		50.000		150.000	Eye and URT irr
	NATIONAL	AUSTRALIA	274.000	50.000	548.000	100.000	
	NATIONAL	AUSTRIA	275.000	50.000	550.000	100.000	
	NATIONAL	BELGIUM	275.000	50.000	550.000	100.000	
	NATIONAL	DENMARK	275.000	50.000	550.000	100.000	
	NATIONAL	FINLAND	270.000	50.000	550.000	100.000	
	NATIONAL	FRANCE	275.000	50.000	550.000	100.000	
	NATIONAL	GERMANY	270.000	50.000	270.000	100.000	AGS
	NATIONAL	GERMANY	270.000	50.000	270.000	100.000	DFG
	NATIONAL	HUNGARY	275.000		550.000		
	NATIONAL	IRELAND	275.000	50.000	550.000	100.000	
	NATIONAL	ITALY	275.000	50.000	550.000	100.000	
	NATIONAL	LATVIA	275.000	50.000	550.000	100.000	
	NATIONAL	ROMANIA	275.000	50.000	550.000	100.000	
	NATIONAL	SPAIN	275.000	50.000	550.000	100.000	
	NATIONAL	SWEDEN	275.000	50.000	550.000	100.000	
	NATIONAL	SWITZERLAND	275.000	50.000	275.000	50.000	
	NATIONAL	NETHERLANDS	275.000				
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	274.000	50.000	548.000	100.000	
NATIONAL	POLAND	260.000		520.000			
EU	NNN	275.000	50.000	550.000	100.000	Skin	

**Predicted No Effect Concentration (PNEC) values**

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency
n-butyl acetate	123-86-4	180.000 µg/l	Freshwater	
		360.000 µg/l	Intermittent releases (freshwater)	
		18.000 µg/l	Marine water	

		35.600 mg/l	Microorganisms in sewage treatments
		981.000 µg/kg	Freshwater sediments
		98.100 µg/kg	Marine water sediments
		90.300 µg/kg	Soil
2-methoxy-1-methylethyl acetate	108-65-6	635.000 µg/l	Freshwater
		6.350 mg/l	Intermittent releases (freshwater)
		63.500 µg/l	Marine water
		100.000 mg/l	Microorganisms in sewage treatments
		3.290 mg/kg	Freshwater sediments
		329.000 µg/kg	Marine water sediments
		290.000 µg/kg	Soil
4-morpholinecarbaldehyde	4394-85-8	500.000 µg/l	Freshwater
		5.000 mg/l	Intermittent releases (freshwater)
		50.000 µg/l	Marine water
		2000.000 mg/l	Marine water
		2.690 mg/kg	Freshwater sediments
		269.000 µg/kg	Marine water sediments
		244.000 µg/kg	Soil

#### Derived No Effect Level (DNEL) values

Component	CAS-No.	Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency
n-butyl acetate	123-86-4		48.000 mg/m <sup>3</sup>	12.000 mg/m <sup>3</sup>	Human Inhalation	Long Term, systemic effects
			600.000 mg/m <sup>3</sup>	300.000 mg/m <sup>3</sup>	Human Inhalation	Short Term, systemic effects
			300.000 mg/m <sup>3</sup>	35.700 mg/m <sup>3</sup>	Human Inhalation	Long Term, local effects
			600.000 mg/m <sup>3</sup>	300.000 mg/m <sup>3</sup>	Human Inhalation	Short Term, local effects
			7.000 mg/kg	3.400 mg/kg	Human Dermal	Long Term, systemic effects
			11.000 mg/kg	6.000 mg/kg	Human Dermal	Short Term, systemic effects
2-methoxy-1-methylethyl acetate	108-65-6		275.000 mg/m <sup>3</sup>	33.000 mg/m <sup>3</sup>	Human Inhalation	Long Term, systemic effects
			550.000 mg/m <sup>3</sup>		Human Inhalation	Short Term, systemic effects
				33.000 mg/m <sup>3</sup>	Human Inhalation	Long Term, local effects
			796.000 mg/kg	320.000 mg/kg	Human Dermal	Long Term, systemic effects
				36.000 mg/kg	Human Oral	Long Term, systemic effects

4-morpholinecarbaldehyde	4394-85-8	98.000 mg/m <sup>3</sup>	29.000 mg/m <sup>3</sup>	Human Inhalation	Long Term, systemic effects
		1.700 mg/m <sup>3</sup>	840.000 µg/m <sup>3</sup>	Human Inhalation	Long Term, local effects
		14.000 mg/kg	8.000 mg/kg	Human Dermal	Long Term, systemic effects
		0.293 mg/cm <sup>2</sup>	176.000 mg/cm <sup>2</sup>	Human Dermal	Long Term, local effects
			8.000 mg/kg	Human Oral	Long Term, systemic effects

## 8.2. Exposure controls

Eye protection:

Not needed for normal use. Anyway, operate according good working practices.

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

Not needed for normal use.

Respiratory protection:

Use adequate protective respiratory equipment.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

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## SECTION 9: Physical and chemical properties

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

Physical State Liquid

Color: In compliance with the product description

Odour: Characteristic

Odour threshold: N.A.

pH: N.A.

Kinematic viscosity: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Flash point: 24 °C (75 °F)

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

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: 1.35 g/cm<sup>3</sup>

Solubility in water: Immiscible

Solubility in oil: N.A.

Partition coefficient (n-octanol/water): N.A.

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Flammability: The product is classified Flam. Liq. 3 H226

Volatile Organic compounds - VOCs = 22.36 % ; 301.87 g/l

#### Particle characteristics:

Particle size: N.A.

### 9.2. Other information

Miscibility: N.A.

Conductivity: N.A.

Evaporation rate: N.A. No other relevant information

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Data not available.

### 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 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	Not classified
	Based on available data, the classification criteria are not met
d) respiratory or skin sensitisation	Not classified
	Based on available data, the classification criteria are not met
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	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

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

n-butyl acetate	a) acute toxicity	LD50 Oral Rat = 10760.00000 mg/kg LC50 Inhalation of aerosol Rat = 0.74000 mg/l 4h LD50 Skin Rabbit > 16.00000 ml/Kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Negative	Mouse
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Inhalation Rat = 750.00000	ppm
	2-methoxy-1-methylethyl acetate	a) acute toxicity	LD50 Oral Rat = 6190.00000 mg/kg LD50 Skin Rabbit > 5000.00000 mg/kg 24h
b) skin corrosion/irritation		Skin Irritant Rabbit Negative 4h	
c) serious eye damage/irritation		Eye Irritant Rabbit No	
d) respiratory or skin sensitisation		Skin Sensitization Guineapig Negative	
g) reproductive toxicity		No Observed Effect Level Rat = 3.69000 mg/l	Inhalation route

4-morpholinecarbaldehyde	a) acute toxicity	LD50 Oral Rat > 7360.00000 mg/kg	
		LC50 Inhalation of aerosol Rat > 5.30000 mg/l 4h	
		LD50 Skin Rabbit > 18400.00000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse	
g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 1000.00000 mg/kg		

## 11.2 Information on other hazards

### Endocrine disrupting properties:

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

## 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
n-butyl acetate	CAS: 123-86-4 - EINECS: 204- 658-1 - INDEX: 607-025-00-1	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 18.00000 mg/L 96h similar to OECD 203
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 44.00000 mg/L 48h similar to OECD 202
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 23.00000 mg/L OECD 211 - 21days
		a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus = 397.00000 mg/L 72h OECD 201
		a) Aquatic acute toxicity : EC50 Tetrahymena pyriformis = 356.00000 mg/L - 40h
2-methoxy-1-methylethyl acetate	CAS: 108-65-6 - EINECS: 203- 603-9	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 130.00000 mg/L 96h OECD guideline 203
		b) Aquatic chronic toxicity : NOEC Fish Oryzias latipes = 47.50000 mg/L OECD guideline 204 - 14days
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 408.00000 mg/L 48h OECD guideline 202
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna > 100.00000 mg/L OECD guideline 211 - 24days
		a) Aquatic acute toxicity : NOEC Algae Selenastrum capricornutum $\geq$ 1000.00000 mg/L OECD guideline 201
4-morpholinecarbaldehyde	CAS: 4394-85-8 - EINECS: 224- 518-3	a) Aquatic acute toxicity : LC50 Fish Leuciscus idus > 500.00000 mg/L 96h „German Industrial Standard DIN 38412, Part 15
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna > 500.00000 mg/L 48h EEC Directive 79/831/EEC
		a) Aquatic acute toxicity : EC50 Algae German Industrial Standard guideline DIN 38412, part 9 = 23.80000 g/L 72h „German Industrial Standard guideline DIN 38412, part 9

## 12.2. Persistence and degradability

Component	Persistence/Degradability:	Test	Value	Notes
n-butyl acetate	Readily biodegradable		83.000	%; OECD 301 D
2-methoxy-1-methylethyl acetate	Readily biodegradable	Dissolved organic carbon		OECD GL 301E
4-morpholinecarbaldehyde	Readily biodegradable	Dissolved organic carbon	96.000	%; OECD 301 A

## 12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value
n-butyl acetate	Bioaccumulative	BCF - Bioconcentration factor	
4-morpholinecarbaldehyde	Bioaccumulative	BCF - Bioconcentration factor	1.900

## 12.4. Mobility in soil

N.A.

## 12.5. Results of PBT and vPvB assessment

No PBT/vPvB Ingredients are present

## 12.6 Endocrine disrupting properties

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

## 12.7 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.

### Properties of waste which render it hazardous (Annex III, Directive 2008/98/EC):

N.A.

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## SECTION 14: Transport information

### 14.1. UN number or ID number

1263

### 14.2. UN proper shipping name

ADR-Shipping Name: PAINT

IATA-Technical name: PAINT

IMDG-Technical name: PAINT

### 14.3. Transport hazard class(es)

ADR-Class: 3

IATA-Class: 3

IMDG-Class: 3

### 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

IMDG-EMS: F-E, S-E

### 14.6. Special precautions for user

Road and Rail (ADR-RID) :

ADR-Label: 3

ADR - Hazard identification number: 30

ADR-Special Provisions: 163 367 650

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

ADR Limited Quantities: 5 L

ADR Excepted Quantities: E1

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

#### 14.7. Maritime transport in bulk according to IMO instruments

N.A.

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### 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. 2020/878

Regulation (EC) nr 648/2004 (Detergents).

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: None

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>
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Product belongs to category: P5c	5000	50000
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#### Regulation (EU) 649/2012 (PIC regulation):

No Substance Listed

German Water Hazard Class.

NWG: Not hazardous for water

SVHC Substances:

No data available

#### Dir. 2004/42/EC (VOC directive)

(ready to use)

Volatile Organic compounds - VOCs = 25.23 %

Volatile Organic compounds - VOCs = 340.54 g/L

FACTORY COLOR PU-S (A) (not ready to use)

Volatile Organic compounds - VOCs = 22.36 %

Volatile Organic compounds - VOCs = 301.87 g/L

## 15.2. Chemical safety assessment

A 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.
H226	Flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.

Code	Hazard class and hazard category	Description
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, 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
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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: Keep Away From Heat  
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:**

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 4. FIRST AID MEASURES
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 10. STABILITY AND REACTIVITY
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 13. DISPOSAL CONSIDERATIONS
- 15. REGULATORY INFORMATION
- 16. OTHER INFORMATION



# Exposure Scenario

## 2-methoxy-1-methylethyl acetate

### Exposure Scenario, 08/06/2021

Substance identity	
	2-methoxy-1-methylethyl acetate
<b>CAS No.</b>	108-65-6
<b>INDEX No.</b>	607-195-00-7
<b>EINECS No.</b>	203-603-9
<b>Registration number</b>	01-2119475791-29

### Table of contents

1. ES 1

# 1. ES 1

## 1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks by brush or roller
Date - Version	29/04/2021 - 1.0
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Coatings and paints, thinners, paint removers (PC9a)

### Environment Contributing Scenario

CS1	ERC8a - ERC8d
-----	---------------

### Worker Contributing Scenario

CS2 Large surfaces - Rolling, Brushing	PROC10
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## 1.2 Conditions of use affecting exposure

### 1.2. CS1: Environment Contributing Scenario (ERC8a, ERC8d)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)
----------------------------------	---

#### *Product (article) characteristics*

##### Physical form of product:

Liquid

##### Concentration of substance in product:

Covers concentrations up to 100 %

#### *Amount used, frequency and duration of use (or from service life)*

##### Amounts used:

Daily amount per site = 5000 kg

**Release type:** Continuous release

**Emission days:** 365 days per year

#### *Conditions and measures related to sewage treatment plant*

##### STP type:

Municipal Sewage Treatment Plant

Water - minimum efficiency of: = 87.3 %

#### *Conditions and measures related to treatment of waste (including article waste)*

##### Waste treatment

Contain and dispose of waste according to local regulations.

#### *Other conditions affecting environmental exposure*

**Local marine water dilution factor:** 100

**Local freshwater dilution factor:** 10

*Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.*

##### Additional Good Practice Advice:

Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases.

### 1.2. CS2: Worker Contributing Scenario: Large surfaces - Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)
--------------------	---

#### *Product (article) characteristics*

##### Physical form of product:

Liquid

**Concentration of substance in product:**

Covers concentrations up to 100 %

*Amount used, frequency and duration of use/exposure*

**Amounts used:**

Daily amount per site = 5000 kg

**Duration:**

Exposure duration = 8 h/day

**Frequency:**

Use frequency = 365 days per year

*Technical and organisational conditions and measures*

**Technical and organisational measures**

Ensure control measures are regularly inspected and maintained.  
Carry out in a vented booth or extracted enclosure.

*Conditions and measures related to personal protection, hygiene and health evaluation*

**Personal protection**

Wear a respirator conforming to EN140.

*Other conditions affecting worker exposure*

Covers indoor and outdoor use

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

## 1.3 Exposure estimation and reference to its source

### 1.3. CS1: Environment Contributing Scenario (ERC8a, ERC8d)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	= 0.003 mg/L	ECETOC TRA environment v3	= 0.004
freshwater sediment	= 0.014 mg/kg KW	ECETOC TRA environment v3	= 0.004
marine water	= 0.0004 mg/L	ECETOC TRA environment v3	= 0.007
marine sediment	= 0.002 mg/kg KW	ECETOC TRA environment v3	= 0.007
soil	= 0.001 mg/kg KW	ECETOC TRA environment v3	= 0.004

### 1.3. CS2: Worker Contributing Scenario: Large surfaces - Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 137.71 mg/m <sup>3</sup>	ECETOC TRA worker v3	= 0.5
dermal, systemic, long-term	= 13.71 mg/kg bw/day	ECETOC TRA worker v3	0.18

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



# Exposure Scenario

## N-butyl acetate

### Exposure Scenario, 13/07/2021

Substance identity	
	N-butyl acetate
<b>CAS No.</b>	123-86-4
<b>INDEX No.</b>	607-025-00-1
<b>EINECS No.</b>	204-658-1
<b>Registration number</b>	01-2119485493-29

### Table of contents

1. **ES 1** Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)

# 1. ES 1 Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)

## 1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks
Date - Version	14/05/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Coatings and paints, thinners, paint removers (PC9a)

### Environment Contributing Scenario

CS1	ERC8a
-----	-------

### Worker Contributing Scenario

CS2 Equipment cleaning and maintenance - Roller, spreader, flow application	PROC11
CS3 Equipment cleaning and maintenance - Rolling, Brushing - Material transfers	PROC8a - PROC10

## 1.2 Conditions of use affecting exposure

### 1.2. CS1: Environment Contributing Scenario (ERC8a)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)
----------------------------------	---

#### *Product (article) characteristics*

##### Physical form of product:

Liquid

##### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

#### *Amount used, frequency and duration of use (or from service life)*

##### Amounts used:

Application rate = 4000 t(tonnes)/year

#### *Conditions and measures related to sewage treatment plant*

##### STP type:

Municipal Sewage Treatment Plant  
Water - minimum efficiency of: = 89.1 %

#### *Other conditions affecting environmental exposure*

**Local marine water dilution factor:** 100

**Local freshwater dilution factor:** 10

**Receiving surface water flow:** 18000 m<sup>3</sup>/day

Covers indoor and outdoor use

### 1.2. CS2: Worker Contributing Scenario: Equipment cleaning and maintenance - Roller, spreader, flow application (PROC11)

Process Categories	Non industrial spraying (PROC11)
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#### *Product (article) characteristics*

##### Physical form of product:

Liquid

##### Vapour pressure:

< 10000 Pa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

**Amount used, frequency and duration of use/exposure****Duration:**

Covers daily exposures up to 8 hours

**Technical and organisational conditions and measures****Technical and organisational measures**Closed systems  
Open systems**Other conditions affecting worker exposure****Temperature:** Assumes use at not more than 20 °C above ambient temperature.**Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.****Additional Good Practice Advice:**

Wear suitable respiratory protection.

**1.2. CS3: Worker Contributing Scenario: Equipment cleaning and maintenance - Rolling, Brushing - Material transfers (PROC8a, PROC10)****Process Categories**

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Roller application or brushing (PROC8a, PROC10)

**Product (article) characteristics****Physical form of product:**

Liquid

**Vapour pressure:**

&lt; 10000 Pa

**Concentration of substance in product:**

Covers percentage substance in the product up to 25 %.

**Amount used, frequency and duration of use/exposure****Duration:**

Covers daily exposures up to 8 hours

**Technical and organisational conditions and measures****Technical and organisational measures**Closed systems  
Open systems**Other conditions affecting worker exposure****Temperature:** Assumes use at not more than 20 °C above ambient temperature.**1.3 Exposure estimation and reference to its source****1.3. CS1: Environment Contributing Scenario (ERC8a)**

Release route	Release rate	Release estimation method
N/A	N/A	ESVOC SPERC 8.3b.v1

**1.3. CS2: Worker Contributing Scenario: Equipment cleaning and maintenance - Roller, spreader, flow application (PROC11)**

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, long-term	= 242 mg/m <sup>3</sup>	ECETOC TRA worker v3	= 0.504

### 1.3. CS3: Worker Contributing Scenario: Equipment cleaning and maintenance - Rolling, Brushing - Material transfers (PROC8a, PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, long-term	= 290.4 mg/m <sup>3</sup>	ECETOC TRA worker v3	= 0.605

### 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

#### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

## Safety Data Sheet

Conforms to Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by Commission Regulation (EU) 2020/878

### FACTORY COLOR PU-S (B)

Date of first edition: 5/10/2021

Safety Data Sheet dated 3/30/2023

version 4

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

### 1.1. Product identifier

Mixture identification:

Trade name: FACTORY COLOR PU-S (B)

Trade code: 05032021 -4

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

Recommended use: hardener

Uses advised against: All uses other than recommended ones

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

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel. +39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

### 1.4. Emergency telephone number

European emergency phone number 112

Kerakoll Italy (+39) 0536 816511

Ireland

Poison information centre: (+353) 809 2166 (Daily 8am-10pm)

In case of emergency call 999 or 112

Malta

In case of emergency call: 112 (24h)

## 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.

Acute Tox. 4 Harmful if inhaled.

Skin Sens. 1 May cause an allergic skin reaction.

STOT SE 3 May cause respiratory irritation.

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

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

#### Pictograms and Signal Words



Warning

#### Hazard statements

H226 Flammable liquid and vapour.

H317 May cause an allergic skin reaction.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

## Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe vapours.
P280	Wear protective gloves and eye protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P370+P378	In case of fire, use water to extinguish.
P501	Dispose of contents/container in accordance with applicable regulations.

## Contains

Hexamethylene diisocyanate, oligomers  
4-isocyanatosulphonyltoluene

## Dir. 2004/42/EC (VOC directive)

Two-pack reactive performance coatings for specific end use such as floors

EU limit value for this product (cat. A/j): 500 g/l

This product contains max 340.54 g/l VOC.

## 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

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## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Mixture identification: FACTORY COLOR PU-S (B)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
50-75 %	Hexamethylene diisocyanate, oligomers	CAS:28182-81-2 EC:500-060-2	Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	01-2119485796-17
10-19,9 %	2-methoxy-1-methylethyl acetate	CAS:108-65-6 EC:203-603-9	Flam. Liq. 3, H226; STOT SE 3, H336	01-2119475791-29
< 0,5 %	4-isocyanatosulphonyltoluene	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, H334, EUH014	01-2119980050-47

Specific Concentration Limits:  
C  $\geq 5\%$ : Eye Irrit. 2 H319  
C  $\geq 5\%$ : STOT SE 3 H335  
C  $\geq 5\%$ : Skin Irrit. 2 H315

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## 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 off safely.

In case of eyes contact:

Wash immediately with water.

In case of Ingestion:

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

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

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

N.A.

#### 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).

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media:

In case of fire, use water to extinguish.

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.

#### 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

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.

See protective measures under point 7 and 8.

#### 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

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

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

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.

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

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

**Community Occupational Exposure Limits (OEL)**

Component	OEL Type	Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Notes	
2-methoxy-1-methylethyl acetate	NATIONAL	AUSTRALIA		274.000	50.000	548.000	100.000		
	NATIONAL	AUSTRIA		275.000	50.000	550.000	100.000		
	NATIONAL	BELGIUM		275.000	50.000	550.000	100.000		
	NATIONAL	DENMARK		275.000	50.000	550.000	100.000		
	NATIONAL	FINLAND		270.000	50.000	550.000	100.000		
	NATIONAL	FRANCE		275.000	50.000	550.000	100.000		
	NATIONAL	GERMANY		270.000	50.000	270.000	100.000	AGS	
	NATIONAL	GERMANY		270.000	50.000	270.000	100.000	DFG	
	NATIONAL	HUNGARY		275.000		550.000			
	NATIONAL	IRELAND		275.000	50.000	550.000	100.000		
	NATIONAL	ITALY		275.000	50.000	550.000	100.000		
	NATIONAL	LATVIA		275.000	50.000	550.000	100.000		
	NATIONAL	ROMANIA		275.000	50.000	550.000	100.000		
	NATIONAL	SPAIN		275.000	50.000	550.000	100.000		
	NATIONAL	SWEDEN		275.000	50.000	550.000	100.000		
	NATIONAL	SWITZERLAND		275.000	50.000	275.000	50.000		
	NATIONAL	NETHERLANDS		275.000					
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND		274.000	50.000	548.000	100.000		
	4-isocyanatosulphonyltoluene	NATIONAL	POLAND		260.000		520.000		
		EU	NNN		275.000	50.000	550.000	100.000	Skin
NATIONAL		AUSTRALIA		0.020		0.070			
NATIONAL		CROATIA		0.020		0.070			
NATIONAL		FINLAND				0.035			
NATIONAL		UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND		0.020		0.070			
NATIONAL		IRELAND		0.020		0.070			
NATIONAL		SWITZERLAND		0.020		0.020			
Hexamethylene Diisocyanate		NATIONAL	AUSTRIA		0.035	0.005	0.035	0.005	
		NATIONAL	BELGIUM		0.034	0.005			
	NATIONAL	DENMARK		0.035	0.005	0.070	0.010		
	NATIONAL	FRANCE		0.075	0.010	0.150	0.020		
	NATIONAL	GERMANY		0.035	0.005	0.035	0.005	Germany AGS; Long term and short term: inhalable aerosol and vapour;	
	NATIONAL	GERMANY	C			0.070	0.010	Germany AGS; Inhalable aerosol and vapour	

	NATIONAL	GERMANY	0.035	0.005	0.035	0.005	Germany DFG; Long term and short term: inhalable fraction and vapour; A momentary value of 0,01 ml/m <sup>3</sup> (0,070 mg/m <sup>3</sup> ) should not be exceeded
	NATIONAL	HUNGARY	0.035		0.035		
	NATIONAL	IRELAND		0.005			As NCO
	NATIONAL	ITALY	1.000				
	NATIONAL	LATVIA	0.050				
	NATIONAL	POLAND	0.040		0.080		
	NATIONAL	ROMANIA	0.050	0.007	1.000	0.140	
	NATIONAL	SPAIN	0.035	0.005			
	NATIONAL	SWEDEN	0.020	0.002	0.030	0.005	Short-term limit value: 5 minutes average value
	ACGIH	NNN		0.005			URT irr, resp sens
Chlorobenzene	NATIONAL	ITALY	23.000	5.000	70.000	15.000	

#### Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency
2-methoxy-1-methylethyl acetate	108-65-6	635.000 µg/l	Freshwater	
		6.350 mg/l	Intermittent releases (freshwater)	
		63.500 µg/l	Marine water	
		100.000 mg/l	Microorganisms in sewage treatments	
		3.290 mg/kg	Freshwater sediments	
		329.000 µg/kg	Marine water sediments	
		290.000 µg/kg	Soil	
		30.000 µg/l	Freshwater	
		300.000 µg/l	Intermittent releases (freshwater)	
		3.000 µg/l	Marine water	
4-isocyanatosulphonyltoluene	4083-64-1	400.000 µg/l	Microorganisms in sewage treatments	
		172.000 µg/kg	Freshwater sediments	
		17.200 µg/kg	Marine water sediments	
		16.800 µg/kg	Soil	

#### Derived No Effect Level (DNEL) values

Component	CAS-No.	Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency
2-methoxy-1-methylethyl acetate	108-65-6		275.000 mg/m <sup>3</sup>	33.000 mg/m <sup>3</sup>	Human Inhalation	Long Term, systemic effects
			550.000 mg/m <sup>3</sup>		Human Inhalation	Short Term, systemic effects
				33.000 mg/m <sup>3</sup>	Human Inhalation	Long Term, local effects
			796.000 mg/kg	320.000 mg/kg	Human Dermal	Long Term, systemic effects
				36.000 mg/kg	Human Oral	Long Term, systemic effects
4-isocyanatosulphonyltoluene	4083-64-1		3.240 mg/m <sup>3</sup>	800.000 µg/m <sup>3</sup>	Human Inhalation	Long Term, systemic effects

920.000 µg/kg	460.000 µg/kg	Human Dermal	Long Term, systemic effects
	460.000 µg/kg	Human Oral	Long Term, systemic effects

## 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:

Nitrile rubber .

Respiratory protection:

Particle filter P2 .

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

---

## SECTION 9: Physical and chemical properties

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

Physical State Liquid

Color: Light yellow

Odour: Characteristic

Odour threshold: N.A.

pH: N.A.

Kinematic viscosity: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Flash point: 24 °C (75 °F)

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

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: 1.11 g/cm<sup>3</sup>

Solubility in water: N.A.

Solubility in oil: N.A.

Partition coefficient (n-octanol/water): N.A.

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Flammability: The product is classified Flam. Liq. 3 H226

Volatile Organic compounds - VOCs = 30 % ; 285 g/l

#### Particle characteristics:

Particle size: N.A.

### 9.2. Other information

Miscibility: N.A.

Conductivity: N.A.

Evaporation rate: N.A. No other relevant information

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Data not available.

### 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

**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	The product is classified: Acute Tox. 4(H332)
b) skin corrosion/irritation	Not classified Based on available data, the classification criteria are not met
c) serious eye damage/irritation	Not classified Based on available data, the classification criteria are not met
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)
i) STOT-repeated exposure	Not classified Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified Based on available data, the classification criteria are not met

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

2-methoxy-1-methylethyl acetate	a) acute toxicity	LD50 Oral Rat = 6190.00000 mg/kg	
		LD50 Skin Rabbit > 5000.00000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Negative	
	g) reproductive toxicity	No Observed Effect Level Rat = 3.69000 mg/l	Inhalation route
	4-isocyanatosulphonyltoluene	a) acute toxicity	LD50 Oral Rat = 2330.00000 mg/kg
		LD50 Skin Rat > 2000.00000 mg/kg 24h	
b) skin corrosion/irritation		Skin Irritant Rabbit Negative 24h	
c) serious eye damage/irritation		Eye Irritant Rabbit No	
d) respiratory or skin sensitisation		Skin Sensitization Negative	Mouse
f) carcinogenicity		Genotoxicity Negative 48h	Mouse oral route
g) reproductive toxicity		No Observed Adverse Effect Level Oral Rat = 52.00000 mg/kg	

**11.2 Information on other hazards****Endocrine disrupting properties:**No endocrine disruptor substances present in concentration  $\geq 0.1\%$ **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
2-methoxy-1-methylethyl acetate	CAS: 108-65-6 - EINECS: 203- 603-9	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 130.00000 mg/L 96h OECD guideline 203
		b) Aquatic chronic toxicity : NOEC Fish Oryzias latipes = 47.50000 mg/L OECD guideline 204 - 14days
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 408.00000 mg/L 48h OECD guideline 202
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna > 100.00000 mg/L OECD guideline 211 - 24days
4-isocyanatosulphonyltoluene	CAS: 4083-64-1 - EINECS: 223- 810-8 - INDEX: 615-012-00-7	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss > 45.00000 mg/L 96h OECD guideline 203
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 100.00000 mg/L 48h OECD guideline 202
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchnerella subcapitata = 30.00000 mg/L 72h OECD guideline 201
		a) Aquatic acute toxicity : NOEC Algae Selenastrum capricornutum >= 1000.00000 mg/L OECD guideline 201

### 12.2. Persistence and degradability

Component	Persistence/Degradability:	Test	Value	Notes
2-methoxy-1-methylethyl acetate	Readily biodegradable	Dissolved organic carbon		OECD GL 301E
4-isocyanatosulphonyltoluene	Readily biodegradable	Oxygen consumption	83.000	%; OECD 301D

### 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 Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

### 12.7 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.

### Properties of waste which render it hazardous (Annex III, Directive 2008/98/EC):

N.A.

---

## SECTION 14: Transport information

### 14.1. UN number or ID 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

IATA-Class: 3

IMDG-Class: 3

### 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

IMDG-EMS: F-E, S-E

### 14.6. Special precautions for user

Road and Rail (ADR-RID) :

ADR-Label: 3

ADR - Hazard identification number: 30

ADR-Special Provisions: 163 367 650

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

ADR Limited Quantities: 5 L

ADR Excepted Quantities: E1

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

### 14.7. Maritime transport in bulk according to IMO instruments

N.A.

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## 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. 2020/878

Regulation (EC) nr 648/2004 (Detergents).

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: 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) 649/2012 (PIC regulation):**

No Substance Listed

German Water Hazard Class.

NWG: Not hazardous for water

SVHC Substances:

No data available

**Dir. 2004/42/EC (VOC directive)**

(ready to use)

Volatile Organic compounds - VOCs = 25.23 %

Volatile Organic compounds - VOCs = 340.54 g/L

FACTORY COLOR PU-S (B) (not ready to use)

Volatile Organic compounds - VOCs = 30.00 %

Volatile Organic compounds - VOCs = 285.00 g/L

**15.2. Chemical safety assessment**

A Chemical Safety Assessment has been carried out for the mixture.

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## SECTION 16: Other information

Code	Description
EUH014	Reacts violently with water.
H226	Flammable liquid and vapour.
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.

Code	Hazard class and hazard category	Description
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
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
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, 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
2.6/3	On basis of test data
3.1/4/Inhal	Calculation method
3.4.2/1	Calculation method
3.8/3	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

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: Keep Away From Heat  
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:**

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 13. DISPOSAL CONSIDERATIONS
- 15. REGULATORY INFORMATION



# Exposure Scenario

## 2-methoxy-1-methylethyl acetate

### Exposure Scenario, 08/06/2021

Substance identity	
	2-methoxy-1-methylethyl acetate
<b>CAS No.</b>	108-65-6
<b>INDEX No.</b>	607-195-00-7
<b>EINECS No.</b>	203-603-9
<b>Registration number</b>	01-2119475791-29

### Table of contents

1. ES 1

# 1. ES 1

## 1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks by brush or roller
Date - Version	29/04/2021 - 1.0
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Coatings and paints, thinners, paint removers (PC9a)

### Environment Contributing Scenario

CS1	ERC8a - ERC8d
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### Worker Contributing Scenario

CS2 Large surfaces - Rolling, Brushing	PROC10
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## 1.2 Conditions of use affecting exposure

### 1.2. CS1: Environment Contributing Scenario (ERC8a, ERC8d)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)
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#### *Product (article) characteristics*

##### Physical form of product:

Liquid

##### Concentration of substance in product:

Covers concentrations up to 100 %

#### *Amount used, frequency and duration of use (or from service life)*

##### Amounts used:

Daily amount per site = 5000 kg

**Release type:** Continuous release

**Emission days:** 365 days per year

#### *Conditions and measures related to sewage treatment plant*

##### STP type:

Municipal Sewage Treatment Plant

Water - minimum efficiency of: = 87.3 %

#### *Conditions and measures related to treatment of waste (including article waste)*

##### Waste treatment

Contain and dispose of waste according to local regulations.

#### *Other conditions affecting environmental exposure*

**Local marine water dilution factor:** 100

**Local freshwater dilution factor:** 10

*Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.*

##### Additional Good Practice Advice:

Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases.

### 1.2. CS2: Worker Contributing Scenario: Large surfaces - Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)
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#### *Product (article) characteristics*

##### Physical form of product:

Liquid

**Concentration of substance in product:**

Covers concentrations up to 100 %

*Amount used, frequency and duration of use/exposure*

**Amounts used:**

Daily amount per site = 5000 kg

**Duration:**

Exposure duration = 8 h/day

**Frequency:**

Use frequency = 365 days per year

*Technical and organisational conditions and measures*

**Technical and organisational measures**

Ensure control measures are regularly inspected and maintained.  
Carry out in a vented booth or extracted enclosure.

*Conditions and measures related to personal protection, hygiene and health evaluation*

**Personal protection**

Wear a respirator conforming to EN140.

*Other conditions affecting worker exposure*

Covers indoor and outdoor use

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

## 1.3 Exposure estimation and reference to its source

### 1.3. CS1: Environment Contributing Scenario (ERC8a, ERC8d)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	= 0.003 mg/L	ECETOC TRA environment v3	= 0.004
freshwater sediment	= 0.014 mg/kg KW	ECETOC TRA environment v3	= 0.004
marine water	= 0.0004 mg/L	ECETOC TRA environment v3	= 0.007
marine sediment	= 0.002 mg/kg KW	ECETOC TRA environment v3	= 0.007
soil	= 0.001 mg/kg KW	ECETOC TRA environment v3	= 0.004

### 1.3. CS2: Worker Contributing Scenario: Large surfaces - Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 137.71 mg/m <sup>3</sup>	ECETOC TRA worker v3	= 0.5
dermal, systemic, long-term	= 13.71 mg/kg bw/day	ECETOC TRA worker v3	0.18

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



# Exposure Scenario

## Hexamethylene diisocyanate, oligomers

### Exposure Scenario, 08/06/2021

Substance identity	
	Hexamethylene diisocyanate, oligomers
<b>CAS No.</b>	28182-81-2
<b>EINECS No.</b>	500-060-2
<b>Registration number</b>	01-2119485796-17

### Table of contents

1. **ES 1** Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)

# 1. ES 1 Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)

## 1.1 TITLE SECTION

<b>Exposure Scenario name</b>	Dye - Professional application of coatings and inks by brush or roller - Professional application of coatings and inks
<b>Date - Version</b>	08/06/2021 - 1.0
<b>Life Cycle Stage</b>	Widespread use by professional workers
<b>Main user group</b>	Professional uses
<b>Sector(s) of use</b>	Professional uses (SU22)
<b>Product Categories</b>	Coatings and paints, thinners, paint removers (PC9a)
<b>Article Category(ies)</b>	Stone, plaster, cement, glass and ceramic articles: Large surface area articles (AC4a) - Other articles made of stone, plaster, cement, glass or ceramic (AC4g)

### Environment Contributing Scenario

<b>CS1</b>	ERC8c - ERC8f
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### Worker Contributing Scenario

<b>CS2 Mixing operations - Material transfers</b>	PROC8a
<b>CS3 Surfaces - Rolling, Brushing</b>	PROC10
<b>CS4 Surfaces - Roller, spreader, flow application</b>	PROC11

## 1.2 Conditions of use affecting exposure

### 1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

<b>Environmental release categories</b>	Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f)
---	---

#### *Product (article) characteristics*

**Physical form of product:**  
Liquid, vapour pressure < 0,5 kPa at STP

**Vapour pressure:**  
= 0.00246 Pa

#### *Amount used, frequency and duration of use (or from service life)*

**Amounts used:**  
Daily amount per site 50 tonnes/day

**Release type:** Intermittent release

#### *Technical and organisational conditions and measures*

**Control measures to prevent releases**  
No discharge of substance into waste water

#### *Conditions and measures related to sewage treatment plant*

**STP type:**  
Municipal Sewage Treatment Plant  
Water - minimum efficiency of: = 100 %

**STP effluent (m<sup>3</sup>/day):** 2000

#### *Conditions and measures related to treatment of waste (including article waste)*

**Waste treatment**  
External treatment and disposal of waste should comply with applicable local and/or national regulations.

#### *Other conditions affecting environmental exposure*

**Receiving surface water flow:** 18000 m<sup>3</sup>/day

## 1.2. CS2: Worker Contributing Scenario: Mixing operations - Material transfers (PROC8a)

<b>Process Categories</b>	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
---------------------------	--

### *Product (article) characteristics*

#### **Physical form of product:**

Liquid, vapour pressure < 0,5 kPa at STP

#### **Vapour pressure:**

Vapour pressure < 0.01 Pa at standard temperature and pressure = 0.00246 Pa

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

### *Technical and organisational conditions and measures*

#### **Technical and organisational measures**

Ensure operatives are trained to minimise exposures.

Use of an integrated local exhaust ventilation is required.

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

Wear suitable gloves tested to EN374.

Wear suitable respiratory protection.

Inhalation - minimum efficiency of: = 90 %

### *Other conditions affecting worker exposure*

Indoor use

Professional use

**Room size:** = 300 m<sup>3</sup>

**Temperature:** Covers use at ambient temperatures. 40°C

## 1.2. CS3: Worker Contributing Scenario: Surfaces - Rolling, Brushing (PROC10)

<b>Process Categories</b>	Roller application or brushing (PROC10)
---------------------------	---

### *Product (article) characteristics*

#### **Physical form of product:**

Liquid, vapour pressure < 0,5 kPa at STP

#### **Vapour pressure:**

Vapour pressure < 0.01 Pa at standard temperature and pressure = 0.00246 Pa

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

### *Technical and organisational conditions and measures*

#### **Technical and organisational measures**

Ensure operatives are trained to minimise exposures.

Use of an integrated local exhaust ventilation is required.

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

### *Conditions and measures related to personal protection, hygiene and health evaluation*

## Personal protection

Wear suitable gloves tested to EN374.  
Wear suitable respiratory protection.

Inhalation - minimum efficiency of: = 90 %

## Other conditions affecting worker exposure

Indoor use

Professional use

**Room size:** = 300 m<sup>3</sup>

**Temperature:** Covers use at ambient temperatures. 40°C

## 1.2. CS4: Worker Contributing Scenario: Surfaces - Roller, spreader, flow application (PROC11)

### Process Categories

Non industrial spraying (PROC11)

## Product (article) characteristics

### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

### Vapour pressure:

Vapour pressure < 0.01 Pa at standard temperature and pressure = 0.00246 Pa

### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

## Amount used, frequency and duration of use/exposure

### Duration:

Covers daily exposures up to 8 hours

## Technical and organisational conditions and measures

### Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Use of an integrated local exhaust ventilation is required.

Provide a basic standard of general ventilation (1 to 3 air changes per hour).

## Conditions and measures related to personal protection, hygiene and health evaluation

## Personal protection

Wear suitable gloves tested to EN374.  
Wear suitable respiratory protection.  
Wear a full face respirator conforming to EN136.

Inhalation - minimum efficiency of: = 98 %

## Other conditions affecting worker exposure

Covers indoor and outdoor use

Professional use

**Room size:** < 300 m<sup>3</sup>

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

*Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.*

### Additional Good Practice Advice:

Ensure that direction of application is only horizontal or downward.

## 1.3 Exposure estimation and reference to its source

### 1.3. CS2: Worker Contributing Scenario: Mixing operations - Material transfers (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, local, short-term	= 0.07 mg/m <sup>3</sup>	ECETOC TRA worker v3	= 0.07

### 1.3. CS3: Worker Contributing Scenario: Surfaces - Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, local, short-term	= 0.18 mg/m <sup>3</sup>	ECETOC TRA worker v3	= 0.18

### 1.3. CS4: Worker Contributing Scenario: Surfaces - Roller, spreader, flow application (PROC11)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, local, short-term	= 0.4 mg/m <sup>3</sup>	ECETOC TRA worker v3	= 0.4

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.