# **AkzoNobel**

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

# SAFETY DATA SHEET

FRS-40 SEMI-GLOSS BASE STAR SILVER 42 PH3/7223

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

1.1 Product identifier

Product name : FRS-40 SEMI-GLOSS BASE STAR SILVER 42 PH3/7223

**SDS code** : 40927223B

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

Identified uses

Paint. Professional use Industrial use

Uses advised against

All other uses

**Product use** : Solvent borne coating for interior use.

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

MAPAERO SAS 10, Avenue de la Rijole CS30098 09103 PAMIERS Cedex

France

e-mail address of person

: PSRA PAMIERS@akzonobel.com

responsible for this SDS

#### 1.4 Emergency telephone number

#### National advisory body/Poison Center

Telephone number : 112

**Supplier** 

**Telephone number** : +33 (0)5 34 01 34 01

+33 (0)5 61 60 23 30

Hours of operation :

#### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Product definition : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H336 STOT RE 2, H373 Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

Date of issue/Date of revision :1-10-2022 Version :1

Date of previous issue : No previous validation 1/21 AkzoNobel

#### **SECTION 2: Hazards identification**

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

#### 2.2 Label elements

Hazard pictograms







Signal word : Warning

**Hazard statements** : Flammable liquid and vapor.

Causes skin irritation.

Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure.

Harmful to aquatic life with long lasting effects.

**Precautionary statements** 

Prevention : Obtain special instructions before use. Wear protective gloves, protective clothing

and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment.

Do not breathe vapor. Wash hands thoroughly after handling.

**Response** : IF exposed or concerned: Get medical advice or attention. IF INHALED: Call a

POISON CENTER or doctor if you feel unwell. Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or

attention.

**Storage** : Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national

and international regulations.

Hazardous ingredients : n-butyl acetate

Reaction mass of ethylbenzene and xylene

4-methylpentan-2-one

Supplemental label

elements

: Contains 4-morpholinecarbaldehyde and methyl methacrylate. May produce an

allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant

fastenings

: Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No.

1907/2006, Annex XIII

: This mixture does not contain any substances that are assessed to be a PBT or a

vPvB.

Date of issue/Date of revision : 1-10-2022 Version : 1

Date of previous issue : No previous validation 2/21 AkzoNobel

## **SECTION 2: Hazards identification**

Other hazards which do not result in classification

: None known.

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

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Туре
n-butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≥25 - ≤50	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	[1] [2]
Reaction mass of ethylbenzene and xylene	REACH #: 01-2119488216-32 EC: 905-588-0	≥10 - ≤15	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3,	[1] [2]
2-methoxy-1-methylethyl acetate	REACH #: 01-2119475791-29 EC: 203-603-9 CAS: 108-65-6	≥10 - ≤25	Flam. Liq. 3, H226 STOT SE 3, H336	[1] [2]
4-methylpentan-2-one	EC: 203-550-1 CAS: 108-10-1 Index: 606-004-00-4	≤5	Flam. Liq. 2, H225 Acute Tox. 4, H332 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H336 EUH066	[1] [2]
aromatic hydrocarbons, C9	REACH #: 01-2119455851-35 EC: 918-668-5 CAS: 128601-23-0	≤1.3	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	[1]
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	REACH #: 01-2119463258-33 EC: 919-857-5	≤3	Flam. Liq. 3, H226 STOT SE 3, H336 Asp. Tox. 1, H304 EUH066	[1]
4-morpholinecarbaldehyde	EC: 224-518-3 CAS: 4394-85-8	<1	Skin Sens. 1, H317	[1]
methyl methacrylate	REACH #: 01-2119452498-28 EC: 201-297-1 CAS: 80-62-6 Index: 607-035-00-6	<1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335	[1] [2]
cumene	REACH #: 01-2119473983-24 EC: 202-704-5 CAS: 98-82-8 Index: 601-024-00-X	≤0.1	Flam. Liq. 3, H226 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1] [2]
cyclohexanone	REACH #: 01-2119453616-35 EC: 203-631-1 CAS: 108-94-1 Index: 606-010-00-7	≤0.1	Flam. Liq. 3, H226 Acute Tox. 4, H332	[1] [2]

Date of issue/Date of revision: 1-10-2022Version: 1Date of previous issue: No previous validation3/21

**AkzoNobel** 

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878 FRS-40 SEMI-GLOSS BASE STAR SILVER 42 PH3/7223

SECTION 3: Composition/information on ingredients						
	See Section 16 for the full text of the H statements declared above.					

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

#### **Type**

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

#### **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

Eye contact

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Protection of first-aiders** 

: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

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

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Date of issue/Date of revision :1-10-2022 Version :1

Date of previous issue : No previous validation 4/21 AkzoNobel

### **SECTION 4: First aid measures**

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Contains 4-morpholinecarbaldehyde, methyl methacrylate. May produce an allergic reaction.

#### Over-exposure signs/symptoms

**Eye contact**: Adverse symptoms may include the following:

pain or irritation

watering redness

**Inhalation** : Adverse symptoms may include the following:

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness

**Skin contact**: Adverse symptoms may include the following:

irritation redness

**Ingestion**: No specific data.

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

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

**Specific treatments**: No specific treatment.

## **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media

Suitable extinguishing

media

: Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

Unsuitable extinguishing

media

: Do not use water jet.

#### 5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture

: Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion** 

products

: Decomposition products may include the following materials:

carbon dioxide carbon monoxide metal oxide/oxides

#### 5.3 Advice for firefighters

Special protective actions

for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Date of issue/Date of revision : 1-10-2022 Version : 1

Date of previous issue : No previous validation 5/21 AkzoNobel

## **SECTION 5: Firefighting measures**

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

#### **SECTION 6: Accidental release measures**

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

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

#### 6.2 Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

#### 6.3 Methods and materials for containment and cleaning up

Small spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

#### Large spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with noncombustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

#### 6.4 Reference to other sections

: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

**Protective measures** 

: Put on appropriate personal protective equipment (see Section 8). Avoid exposure obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers

: 1-10-2022 Date of issue/Date of revision Version :1 6/21

Date of previous issue : No previous validation **AkzoNobel** 

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

FRS-40 SEMI-GLOSS BASE STAR SILVER 42 PH3/7223

## **SECTION 7: Handling and storage**

# Advice on general occupational hygiene

retain product residue and can be hazardous. Do not reuse container.

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

#### **Seveso Directive - Reporting thresholds**

#### **Danger criteria**

	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonne	50000 tonne

#### 7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific : Not available.

solutions

### **SECTION 8: Exposure controls/personal protection**

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

#### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
n-butyl acetate	Work environment authority Regulation 2018:1 (Sweden, 2/2018). STEL: 700 mg/m³ 15 minutes.
	STEL: 150 ppm 15 minutes. TWA: 500 mg/m³ 8 hours.
	TWA: 100 ppm 8 hours.
Reaction mass of ethylbenzene and xylene	Work environment authority Regulation 2018:1 (Sweden,
	2/2018). Absorbed through skin.
	STEL: 442 mg/m³ 15 minutes.
	STEL: 100 ppm 15 minutes.
	TWA: 221 mg/m³ 8 hours. TWA: 50 ppm 8 hours.
2-methoxy-1-methylethyl acetate	Work environment authority Regulation 2018:1 (Sweden,
2 moundary remounding addition	2/2018). Absorbed through skin.
	TWA: 50 ppm 8 hours.
	TWA: 275 mg/m³ 8 hours.
	STEL: 100 ppm 15 minutes.
	STEL: 550 mg/m³ 15 minutes.
4-methylpentan-2-one	Work environment authority Regulation 2018:1 (Sweden,
	2/2018).
	STEL: 200 mg/m³ 15 minutes.
	STEL: 50 ppm 15 minutes.

 Date of issue/Date of revision
 : 1-10-2022
 Version
 : 1

 Date of previous issue
 : No previous validation
 7/21
 AkzoNobel

TWA: 83 mg/m<sup>3</sup> 8 hours. TWA: 20 ppm 8 hours. Work environment authority Regulation 2018:1 (Sweden, methyl methacrylate 2/2018). Skin sensitizer. STEL: 400 mg/m<sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes. TWA: 200 mg/m<sup>3</sup> 8 hours. TWA: 50 ppm 8 hours. Work environment authority Regulation 2018:1 (Sweden, cumene 2/2018). Absorbed through skin. STEL: 250 mg/m<sup>3</sup> 15 minutes. STEL: 50 ppm 15 minutes. TWA: 100 mg/m<sup>3</sup> 8 hours. TWA: 20 ppm 8 hours. Work environment authority Regulation 2018:1 (Sweden, cyclohexanone 2/2018). Absorbed through skin. STEL: 81 mg/m3 15 minutes. STEL: 20 ppm 15 minutes. TWA: 41 mg/m<sup>3</sup> 8 hours. TWA: 10 ppm 8 hours.

# Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8/21

#### **DNELs/DMELs**

Product/ingredient name	Туре	Exposure	Value	Population	Effects
n-butyl acetate	DNEL	Long term Oral	3.4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	3.4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	7 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	12 mg/m³	General population	Systemic
	DNEL	Long term	48 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	102.34 mg/ m³	General population	Local
	DNEL	Long term Inhalation	480 mg/m <sup>3</sup>	Workers	Local
	DNEL	Short term Inhalation	859.7 mg/ m³	General population	Local
	DNEL	Short term Inhalation	859.7 mg/ m <sup>3</sup>	General population	Systemic
	DNEL	Short term Inhalation	960 mg/m³	Workers	Local
	DNEL	Short term Inhalation	960 mg/m³	Workers	Systemic
Reaction mass of ethylbenzene and xylene	DNEL	Long term Oral	1.6 mg/kg bw/day	General population	Systemic

Date of issue/Date of revision : 1-10-2022 Version : 1

Date of previous issue : No previous validation



DNEL   Cong term inhalation   DNEL   Cong term Dermal   DNEL   DNEL   Cong term Dermal   DNEL   Cong term   DNEL   Cong term   DNEL   Cong term   DNEL   Dne term   Dne term	SECTION 6. Exposure com	.i 015/p	ersonal prote	Clion		
Inhalation   DNEL   Long term pormal   DNEL   DNEL   Long term pormal   DNEL		DNEL	Long term	14.8 mg/m <sup>3</sup>	General	Systemic
DNEL   Cong term permal   Dnes   Cong term   Dnes   Cong term   Dnes   D				J.		,
DNEL   Cong term Dermal   DNEL		DNFI		77 ma/m³		Systemic
DNEL Long term Dermal by widay by computation by the propulation by th				/ / mg/m	WOINGIO	Cyclonno
DNEL Long term Dermal Dowlday bw/day		DNEI		100 ma/ka	Conoral	Systemic
DNEL Long term Dermal widay and proposal to term linal attion by the proposal to the p		DINEL	Long term Dermai			Systemic
DNEL Short term Inhalation DNEL Long term Dermal DNEL Long term Dnemal DNEL Dnemal		DAIE				0
DNEL		DNEL	Long term Dermai		Workers	Systemic
A-methylpentan-2-one						
A-methylpentan-2-one    DNEL   Short term Inhalation   Long term Oral   Long term Oral   Long term   L		DNEL	Short term	289 mg/m <sup>3</sup>	Workers	Local
A-methylpentan-2-one			Inhalation			
A-methylpentan-2-one   DNEL   Long term Oral   Long term Dermal DNEL   Long term Dermal Inhalation   DNEL Long term   14.7 mg/m   long teneral Inhalation   DNEL Long term   14.7 mg/m   long teneral Inhalation   DNEL Long term   155.2 mg/ Inhalation   DNEL Long term   155.2 mg/ Inhalation   DNEL Inhalation   DNEL Long term   155.2 mg/ Inhalation   DNEL Inhalation   DNEL Long term   155.2 mg/ Inhalation   DNEL Inhalation   DNEL Inhalation   DNEL Long term   155.2 mg/ Inhalation   DNEL Ing term Dermal Inhalation   DNEL Iong term   DNEL		DNEL	Short term	289 mg/m <sup>3</sup>	Workers	Systemic
A-methylpentan-2-one   DNEL   Long term Oral DNEL   Long term Dermal DNEL DNEL DNEL DNEL DNEL DNEL DNEL DNEL			Inhalation	· ·		
DNEL Long term Dermal DNEL Long term Dermal DNEL Long term Dermal Inhalation DNEL Short term Inhalation DNEL Long term Dermal DNEL Long term Dermal Inhalation DNEL Long term DNEL Long term Inhalation DNEL Short term Inhalation DNEL Long term Inhalation DNEL Short term Inhalation DNEL Long term DNEL Short term Inhalation DNEL DNEL Long term DNEL Short term Inhalation DNEL DNEL Long term DNEL DNEL DNEL Long term DNEL DNEL DNEL DNE TONE DNEL DNEL DNE TONE TONE DNEL DNE TONE DNEL DNE TONE DNEL DNE TONE DNEL DNE TONE DNE TONE DNEL DNE TONE DNEL DNE TONE DNEL DNE TONE DNEL DNE TONE D	4-methylpentan-2-one	DNEL	Long term Oral	4.2 mg/kg	General	Systemic
DNEL   Long term Dermal   4.2 mg/kg   bw/day   11.8 mg/kg   bw/day	71					,
DNEL Long term Dermal Inhalation DNEL Long term Inhalation DNEL Long term Inhalation DNEL Long term Inhalation DNEL Long term Inhalation DNEL Short term Inhalation DNEL Short term Inhalation DNEL Short term Inhalation DNEL Long term Oral DNEL Long term Inhalation DNEL Long term Dermal DNEL Long term Dermal DNEL Long term Dnemal Dnem		DNEI	Long term Dermal			Systemic
DNEL Long term permal physical		DIVLL	Long term Dermai			Cysternic
DNEL Long term Inhalation DNEL Long term Inhalation DNEL Long term Inhalation DNEL Long term Inhalation DNEL DNEL Short term Inhalation DNEL Short term Inhalation DNEL DNEL Short term Inhalation DNEL DNEL Short term Inhalation DNEL DNEL Dnet methyl methacrylate DNEL Long term Dramal DNEL Long term Dramal DNEL Long term DNEL Dnet DNEL Dnet methyl methacrylate DNEL Long term Dramal DNEL Long term Dramal DNEL Long term Dnet DNEL Dnet DNEL Dnet Dnet DNEL Dnet Dnet Dnet Dnet Dnet Dnet Dnet Dnet		DNIEL				0
DNEL Long term Inhalation DNEL Coal term Inhalation DNEL Short term Inhalation DNEL Coal Inhalation DNEL DNEL DNEL DNEL DNEL DNEL DNEL DNEL		DNEL	Long term Dermai		vvorkers	Systemic
Inhalation						
DNEL Long term Inhalation DNEL Long term Inhalation DNEL Long term Inhalation DNEL Inhalation DNEL Inhalation DNEL Short term Inhalation DNEL Cong term Dermal DNEL Long term Dermal DNEL Cong term DNEL DNEL DNEL DNEL DNEL DNEL DNEL DNEL		DNEL		14.7 mg/m³		Local
Inhalation			Inhalation		population	
Inhalation		DNEL	Long term	14.7 mg/m <sup>3</sup>	General	Systemic
DNEL Long term Inhalation DNEL Short term Inhalation DNEL Long term Oral DNEL Long term Dermal Inhalation DNEL Long term Dermal DNEL Long term Dermal Inhalation DNEL Long term Dermal DNEL Long term Dermal Inhalation DNEL Short term Inhalation DNED DRIB DRIB DRIB DEVIATION DEPART INHALATION DEPART I			Inhalation		population	
Inhalation DNEL DNEL DNEL DNEL Short term Inhalation DNEL DNEL DNEL DNEL DNEL DNEL DNEL DNEL		DNEL		83 mg/m³		Local
DNEL Cong term Inhalation DNEL Short term Inhalation DNEL Cong term Dermal DNEL Cong term DNEL Cong term Dermal DNEL Cong term DNEL				J		
Inhalation DNEL Short term Inhalation DNEL Short term Inhalation DNEL Long term Dermal Inhalation DNEL Long term DNEL DNEL DNEL DNEL DNEL DNEL DNEL DNEL		DNEI		83 ma/m³	Workers	Systemic
DNEL Short term Inhalation DNEL Cong term Dermal Inhalation DNEL Long term DNEL DNEL DNET DNEM DNED DNEL DNET DNEM DNED DNED DNED DNED DNED DNED DNED		DIVLL		05 mg/m	WOIKEIS	Oysternic
DNEL   Inhalation   Short term   155.2 mg/   General   Dopulation   Systemic   DNEL   Short term   208 mg/m³   Workers   Systemic   DNEL   Long term   Dremal   DNEL   D		DNE		155 2 mg/	Conoral	Local
DNEL ong term Dermal Inhalation DNEL Long term Dermal Inhalation DNEL Short term Dermal DNEL Short term Dermal DNEL Short term Draid DNEL Draid DNEL Draid DNEL DNE DNEL DNE DNEL DNE DNEL DNE DNEL DNE		DINEL				Local
Inhalation   Short term   208 mg/m³   DNEL   Short term   208 mg/m³   Workers   Systemic   System						
DNEL Short term Inhalation DNEL Short term Inhalation Inhalation Inhalation DNEL Long term Dermal DNEL Long term Dermal Inhalation DNEL Long term Dermal DNEL Long term Dermal DNEL Long term DNEL DNEL Short term DNEMAL Short te		DNEL				Systemic
A-morpholinecarbaldehyde  A-morpholinecarbaldehyde  DNEL DNEL Long term Oral DNEL Long term Dermal DNEL Long term Dermal Inhalation DNEL Long term Dermal DNEL Long term Dnemal Dnemal DNEL Long term Dnemal DNEL Dnemal DNem						
4-morpholinecarbaldehyde  DNEL   Short term   Inhalation   DNEL   Long term Dermal   DNEL   Long term Dermal   DNEL   Long term Dermal   DNEL   Long term Dermal   DNEL   Long term   Domesterm   Domesterm   DNEL   Long term   Domesterm   Domesterm   DNEL   Long term   Domesterm   Domesterm   DNEL   Long term   Domesterm   DNEL   Domesterm   Domesterm   DNEL   Domesterm   Domesterm   Domesterm   DNEL   Domesterm   Domesterm   Domesterm   Domesterm   Domesterm   Domesterm   Domesterm   DNEL   Domesterm   Dome		DNEL	Short term	208 mg/m <sup>3</sup>	Workers	Local
4-morpholinecarbaldehyde  DNEL Long term Oral Long term Dermal DNEL Long term DNEL Short term DNEL DNEL Short term DNE			Inhalation			
4-morpholinecarbaldehyde  DNEL Long term Oral Long term Dermal DNEL Long term DNEL Short term DNEL DNEL Short term DNE		DNEL	Short term	208 mg/m <sup>3</sup>	Workers	Systemic
4-morpholinecarbaldehyde  DNEL   Long term Oral   Long term Dermal   Smg/kg bw/day   Suptemic   Systemic   Sys			Inhalation	J		
DNEL Long term Dermal bw/day 8 mg/kg bw/day bopulation bystemic bystemic bystemic bystemic bystemic bystemic bystemic bw/day bw/day bw/day bopulation bystemic bystemic bystemic bw/day bw/day bw/day bw/day bopulation bystemic bw/day bw/day bopulation bystemic bystemic bystemic bystemic bw/day bw/day bystemic bystemic bystemic bystemic bw/day bw/day bystemic bystemic bystemic bystemic bystemic bystemic bystemic bw/day bw/day bystemic bystemic bystemic bystemic bystemic bystemic bystemic bw/day bw/day bystemic	4-morpholinecarbaldehyde	DNFI		8 ma/ka	General	Systemic
DNEL Long term Dermal DNEL Long term DNEL Short term Dermal DNEL Short term Dermal DNEL Short term Dermal DNEL Short term DOPULATION DNEL DNEL Short term DOPULATION DNEL	1 morpholinodarbalderrydd		Long torm oral			Cyclonno
DNEL Long term Dermal DNEL Long term Dermal Inhalation DNEL Long term Dermal DNEL Long term DNEL Short term DNEM Short term Sh		DNEI	Long term Dermal	•		Systemic
DNEL   Long term   Dermal   14 mg/kg   bw/day   29 mg/m³   General   population   DNEL   Long term   Dermal   14 mg/kg   bw/day   29 mg/m³   General   population   DNEL   Long term   Dermal   Systemic   DNEL   Long term   Dermal   Sustemic   DNEL   Long term   Dermal   Sustemic   DNEL   Long term   Dermal   Sustemic   DNEL   Long term   Dermal   DNEL   Long term   Dermal   DNEL   Long term   Dustem   DNEL   DNEL   Long term   Dustem   DNEL   DNEL   Long term   Dustem   DNEL   DNEL   Long term   Dermal   DNEL   DNEL   Long term   Dustem   DNEL   DNEL   Long term   Dermal   DNEL   DNEL   Long term   Dermal   DNEL   DNEL   Long term   Dermal   DNEL   DNEL   DNEL   Long term   Dermal   DNEL   DNEL		DIVLL	Long term Dermai			Cysternic
DNEL Long term Inhalation DNEL Long term Dermal DNEL Short term Dermal DNEL Long term Dermal DNEL Long term Dermal DNEL Short term Oral DNEL Spotemic DNEL Short term Oral DNEL Systemic DNEL Short term Oral DNEL Systemic DNEL Systemic DNEL Short term Oral DNEL Systemic		DNE	Laws tawa Dawas			Cyrotomolo
DNEL Long term Inhalation DNEL Long term Dermal Inhalation DNEL Long term DNEL Long term DNEL Long term DNEL Long term Inhalation DNEL Long term DNEL DNEL DNEL DNEL DNEL DNEL DNEL DNEL		DNEL	Long term Dermai		vvorkers	Systemic
Inhalation DNEL Long term Dermal DNEL Short term Dermal DNEL Long term Dermal DNEL Short term Dermal DNEL Short term Dermal DNEL Short term Oral DNEL Short term Oral DNEL Short term Dermal DNEL Short term Dermal DNEL Short term Oral		D	ļ. ,			
methyl methacrylate  DNEL   Long term   Inhalation   DNEL   Long term Dermal   Long term Dermal   Systemic   DNEL   Long term   T4.3 mg/m³   General   population   DNEL   Long term   Long term   DNEL   Long term   Long term   Long term   DNEL   Long term   Long term   DNEL   Long term   Long term   DNEL   Long term   DNEL   Long term   Long term   Long term   DNEL   Long term   Long term   Long term   DNEL   Long term   DNEL   Long term Dermal   Long term   DNEL   Short term Oral   Systemic   Syst		DNEL		29 mg/m³		Systemic
methyl methacrylate  DNEL Long term Dermal DNEL Long term Dermal DNEL Long term Dermal DNEL Long term Dermal DNEL Long term DNEL Short term DNEL DNEL Short term DNEL DNEL Long term DNEL Short term SNED Systemic Systemi						
methyl methacrylate  DNEL Long term Dermal DNEL Long term Dermal DNEL Long term Dermal DNEL Long term Dermal DNEL Long term DNEL DNEL DNEL Short term DNEM DNEL Long term DNEM DNEL Short term DNEM DNEL Long term DNEM DNEL Short term DNEM DNEM DNEL Short term DNEM DNEM DNEL Short term DNEM DNEM Systemic		DNEL		98 mg/m³	Workers	Systemic
DNEL Long term Dermal bw/day 13.67 mg/kg bw/day DNEL Long term 74.3 mg/m³ General population DNEL Long term 104 mg/m³ General population DNEL Long term 208 mg/m³ Workers  DNEL Long term 208 mg/m³ Workers  DNEL Long term 208 mg/m³ Workers  Local  DNEL Long term 208 mg/m³ Workers  DNEL Long term 1 mg/kg General population DNEL Long term 208 mg/m³ Systemic  DNEL Long term 208 mg/m³ Systemic  DNEL Long term Dermal 1 mg/kg General population DNEL Short term Oral 1.5 mg/kg General Systemic DNEL Short term Oral 1.5 mg/kg General Systemic			Inhalation			
DNEL Long term Dermal bw/day 13.67 mg/kg bw/day DNEL Long term 74.3 mg/m³ General population DNEL Long term 104 mg/m³ General population DNEL Long term 208 mg/m³ Workers  DNEL Long term 208 mg/m³ Workers  DNEL Long term 208 mg/m³ Workers  Local  DNEL Long term 208 mg/m³ Workers  DNEL Long term 1 mg/kg General population DNEL Long term 208 mg/m³ Systemic  DNEL Long term 208 mg/m³ Systemic  DNEL Long term Dermal 1 mg/kg General population DNEL Short term Oral 1.5 mg/kg General Systemic DNEL Short term Oral 1.5 mg/kg General Systemic	methyl methacrylate	DNEL	Long term Dermal	8.2 mg/kg	General	Systemic
DNEL Long term Dermal 13.67 mg/ kg bw/day  DNEL Long term 74.3 mg/m³ Inhalation  DNEL Long term 104 mg/m³ Inhalation  DNEL Long term 208 mg/m³ Inhalation  DNEL Long term Dermal 1 mg/kg bw/day  DNEL Long term Dermal 1 mg/kg General population  DNEL Short term Dermal 1 mg/kg General population  DNEL Long term Dermal 1 mg/kg General population  DNEL Short term Oral 1.5 mg/kg General Systemic  DNEL Short term Oral 1.5 mg/kg General Systemic			-		population	=
DNEL Long term Inhalation  DNEL Short term Dermal Inhalation  DNEL Short term Oral  Kg bw/day 74.3 mg/m³ General population  Workers Local  Workers Systemic  Systemic  Systemic  Systemic  Systemic  Systemic  DNEL Short term Oral  Nore Someral population  DNEL Short term Dermal Ing/kg General population  DNEL Short term Oral  Systemic  Systemic  Systemic  Systemic		DNEL	Long term Dermal			Systemic
DNEL Long term Inhalation DNEL Long term Dermal DNEL Short term Dermal DNEL Short term Oral DNEL Short term Oral  74.3 mg/m³ General population Workers Local Workers Systemic						,======
Inhalation DNEL Long term		DNEI	Long term		General	Systemic
DNEL Long term Inhalation DNEL Long term Long term Inhalation DNEL Long term Inhalation DNEL Long term Inhalation DNEL Short term Dermal Dermal DNEL Long term Dermal DNEL Short term Oral DNEL Systemic System		5116		, 4.5 mg/m		Cyclonino
Inhalation Long term Inhalation DNEL Long term Inhalation DNEL Long term Inhalation DNEL Short term Dermal DNEL Long term Inhalation DNEL Short term Oral DNEL Short term Oral DNEL DNEL DNEL Short term Oral DNEL DNEL DNEL DNEL DNEL DNEL DNEL DNEL		DVIE		104 mg/m <sup>3</sup>		Local
DNEL Long term Inhalation  DNEL Long term Long term Long term 208 mg/m³ Workers  Local  Under Market Local  DNEL Short term Dermal Long term Dermal Dermal Dermal Dermal Dermal Dermal Dermal DNEL Long term Dermal Dermal Dermal Dermal Dermal Dermal Dermal DNEL Short term Oral Short term Oral DNEL Short term Oral DNEL Short term Oral Systemic DNEL Systemic DNEL Short term Oral Systemic Systemic DNEL Systemic DNEL Systemic DNEL Short term Oral DNEL Systemic DNEL Systemic DNEL Systemic DNEL Short term Oral DNEL Systemic DNEL Systemic DNEL Systemic DNEL Systemic DNEL Short term Oral DNEL Systemic DNEL Short term Oral DNEL Short term Oral DNEL Systemic DNEL Systemic DNEL Short term Oral DNEL Systemic DNEL Systemic DNEL Systemic DNEL Short term Oral DNEL Systemic DNEL S		DINEL		104 mg/m		LUCAI
cyclohexanone  DNEL   Inhalation   Long term   Long term   Long term   Inhalation   DNEL   Short term Dermal   1 mg/kg   DNEL   Long term Dermal   1 mg/kg   General   Systemic   DNEL   Short term Oral   1.5 mg/kg   General   Systemic   System		D. I.C.		000 / 3		
cyclohexanone  DNEL   Long term   Long term Dermal   Long term		DNEL		208 mg/m <sup>3</sup>	vvorkers	Local
cyclohexanone  DNEL Short term Dermal 1 mg/kg bw/day population DNEL Short term Oral 1.5 mg/kg General population DNEL Short term Oral 1.5 mg/kg General Systemic Systemic Systemic Systemic Systemic Systemic Systemic						
cyclohexanone  DNEL Short term Dermal 1 mg/kg bw/day population  DNEL Long term Dermal 1 mg/kg bw/day population  DNEL Short term Oral 1.5 mg/kg General population  DNEL Short term Oral 1.5 mg/kg General Systemic  Systemic Systemic Systemic		DNEL		208 mg/m <sup>3</sup>	Workers	Systemic
DNEL Long term Dermal bw/day population  Long term Dermal 1 mg/kg General Systemic population  DNEL Short term Oral 1.5 mg/kg General Systemic			Inhalation			
DNEL Long term Dermal bw/day population  Long term Dermal 1 mg/kg General Systemic population  DNEL Short term Oral 1.5 mg/kg General Systemic	cyclohexanone	DNEL	Short term Dermal	1 mg/kg	General	Systemic
DNEL Long term Dermal 1 mg/kg General Systemic bw/day population DNEL Short term Oral 1.5 mg/kg General Systemic Systemic						
DNEL Short term Oral bw/day population Systemic		DNFI	Long term Dermal			Systemic
DNEL Short term Oral 1.5 mg/kg General Systemic						2,0.0.1110
		DNEI	Short term Oral			Systemic
		DINEL	CHOIL CHIII CIAI			Gysterrite
				bw/uay	population	

Date of issue/Date of revision
Date of previous issue

: 1-10-2022

: No previous validation

Version :

9/21

DNEL Long term Oral 1.5 mg/kg General Sy	systemic
bw/day population	
DNEL Short term Dermal 4 mg/kg Workers S	systemic
bw/day	
DNEL Long term Dermal 4 mg/kg Workers St	Systemic
bw/day	
	Systemic
Inhalation population	,
	ocal
Inhalation population	
	systemic
Inhalation population	,,5.511110
	ocal
Inhalation population	
	ocal
Inhalation	
	systemic
Inhalation	ysternie
	ocal
Inhalation	ocai
	systemic
Inhalation	ysternic
	systemic
bw/day population	ysternie
	systemic
	ysternic .
	systemic
	ystellile
kg bw/day   16.6 mg/m³   Caparal   St	votomio
	Systemic
Inhalation population	·4:
	Systemic
Inhalation 250 w/ 3 W - 1	1
	ocal
Inhalation	

#### **PNECs**

No PNECs available.

#### 8.2 Exposure controls

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### **Individual protection measures**

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

#### **Skin protection**

Date of issue/Date of revision: 1-10-2022Version: 1Date of previous issue: No previous validation10/21AkzoNobel

#### Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time >480 minutes according to EN374) is recommended. Recommended gloves: Viton  $\circledR$  or Nitrile, thickness  $\trianglerighteq$  0.38 mm. When only brief contact is expected, a glove with protection class of 2 or higher (breakthrough time >30 minutes according to EN374) is recommended.

Recommended gloves: Nitrile, thickness ≥ 0.12 mm.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

#### **Body protection**

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

#### Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

#### **Respiratory protection**

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

# Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

# **SECTION 9: Physical and chemical properties**

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

#### **Appearance**

Physical state : Liquid.
Color : Silver.

Odor : Characteristic.
Odor threshold : Not available.
pH : Not available.
Melting point/freezing point : Not available.
Initial boiling point and : Not available.

boiling range

Flash point : Closed cup: 28°C
Evaporation rate : Not available.
Flammability (solid, gas) : Not available.

Date of issue/Date of revision : 1-10-2022 Version : 1

Date of previous issue : No previous validation 11/21 AkzoNobel

## SECTION 9: Physical and chemical properties

Upper/lower flammability or

explosive limits

: Not available.

Vapor pressure

: Not available.

Vapor density

: Highest known value: 4.6 (Air = 1) (2-methoxy-1-methylethyl acetate).

Weighted average: 4.02 (Air = 1)

Density : 0.985 g/cm<sup>3</sup>

: Insoluble in the following materials: cold water. Solubility(ies)

Partition coefficient: n-octanol/ : Not available.

water

**Auto-ignition temperature** : Not available. **Decomposition temperature** : Not available.

**Viscosity** : Kinematic (room temperature): 10.15 cm<sup>2</sup>/s

Kinematic (40°C): 1.01 cm<sup>2</sup>/s

## SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld,

braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials

: Reactive or incompatible with the following materials:

oxidizing materials

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products

12/21

should not be produced.

## SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

#### **Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
n-butyl acetate	LC50 Inhalation Gas.	Rat	390 ppm	4 hours
	LC50 Inhalation Vapor	Mouse	6 g/m <sup>3</sup>	2 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Intraperitoneal	Mouse	1230 mg/kg	-
	LD50 Oral	Guinea pig	4700 mg/kg	-
	LD50 Oral	Mouse	6 g/kg	-
	LD50 Oral	Rabbit	3200 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-
Reaction mass of	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
ethylbenzene and xylene				
4-methylpentan-2-one	LD50 Intraperitoneal	Guinea pig	800 mg/kg	-
	LD50 Intraperitoneal	Mouse	268 mg/kg	-
	LD50 Intraperitoneal	Rat	400 mg/kg	-
	LD50 Oral	Guinea pig	1600 mg/kg	-
	LD50 Oral	Mouse	1900 mg/kg	-
	LD50 Oral	Mouse	2850 mg/kg	-
	LD50 Oral	Rat	2080 mg/kg	-

Date of issue/Date of revision : 1-10-2022 Version : 1

Date of previous issue : No previous validation **AkzoNobe** 

# **SECTION 11: Toxicological information**

	LD50 Oral	Rat	4600 mg/kg	<b> </b> -
4-morpholinecarbaldehyde	LD50 Oral	Rat	6500 uL/kg	_
methyl methacrylate	LC50 Inhalation Vapor	Mouse	18500 mg/m³	2 hours
	LC50 Inhalation Vapor	Rat	78000 mg/m³	4 hours
	LD50 Dermal	Rabbit	>5 g/kg	_
	LD50 Intraperitoneal	Guinea pig	1890 mg/kg	-
	LD50 Intraperitoneal	Mouse	945 mg/kg	_
	LD50 Intraperitoneal	Rat	1328 mg/kg	_
	LD50 Oral	Guinea pig	5954 mg/kg	_
	LD50 Oral	Mouse	3625 mg/kg	_
	LD50 Oral	Rabbit	8700 mg/kg	_
	LD50 Oral	Rat	7872 mg/kg	_
	LD50 Subcutaneous	Guinea pig	5954 mg/kg	_
	LD50 Subcutaneous	Mouse	5954 mg/kg	_
	LD50 Subcutaneous	Rat	7088 mg/kg	-
cyclohexanone	LC50 Inhalation Gas.	Rat	8000 ppm	4 hours
	LD50 Dermal	Rabbit	1 mL/kg	-
	LD50 Intraperitoneal	Guinea pig	930 mg/kg	-
	LD50 Intraperitoneal	Mouse	1230 mg/kg	-
	LD50 Intraperitoneal	Mouse	1230 mg/kg	-
	LD50 Intraperitoneal	Rabbit	1540 mg/kg	-
	LD50 Intraperitoneal	Rabbit	1540 mg/kg	-
	LD50 Intraperitoneal	Rat	1130 mg/kg	-
	LD50 Intraperitoneal	Rat	1130 mg/kg	-
	LD50 Oral	Mouse	1400 mg/kg	-
	LD50 Oral	Rat	1800 mg/kg	-
	LD50 Oral	Rat	1620 uL/kg	-
	LD50 Subcutaneous	Rat	2170 mg/kg	-
cumene	LC50 Inhalation Vapor	Mouse	15300 mg/m <sup>3</sup>	2 hours
	LC50 Inhalation Vapor	Mouse	10 g/m³	7 hours
	LC50 Inhalation Vapor	Mouse	10000 mg/m <sup>3</sup>	7 hours
	LC50 Inhalation Vapor	Rat	39000 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	12300 uL/kg	-
	LD50 Oral	Mouse	12750 mg/kg	-
	LD50 Oral	Rat	2.9 g/kg	-
	LD50 Oral	Rat	1400 mg/kg	-

### Conclusion/Summary

: Not available.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
n-butyl acetate	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500	-
				mg	
Reaction mass of	Eyes - Mild irritant	Rabbit	-	87 mg	-
ethylbenzene and xylene	Eyes - Severe irritant	Rabbit	_	24 hours 5	_
	*			mg	
	Skin - Mild irritant	Rat	-	8 hours 60 UI	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500	-
				mg	
	Skin - Moderate irritant	Rabbit	-	100 %	-
4-methylpentan-2-one	Eyes - Moderate irritant	Rabbit	-	24 hours 100	-
				UI	
	Eyes - Severe irritant	Rabbit	-	40 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500	-
				mg	
4-morpholinecarbaldehyde	Eyes - Mild irritant	Rabbit	-	24 hours 500	-
				mg	
	Skin - Mild irritant	Rabbit	-	24 hours 500	-
				mg	
cyclohexanone	Eyes - Severe irritant	Rabbit	-	24 hours 250	-

Date of issue/Date of revision : 1-10-2022 Version : 1

Date of previous issue : No previous validation 13/21

**AkzoNobel** 

# **SECTION 11: Toxicological information**

				ug	
	Eyes - Severe irritant	Rabbit	-	20 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
cumene	Eyes - Mild irritant	Rabbit	-	24 hours 500	-
				mg	
	Eyes - Mild irritant	Rabbit	-	86 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 10	-
				mg	
	Skin - Moderate irritant	Rabbit	-	24 hours 100	-
				mg	

**Conclusion/Summary** 

: Not available.

**Sensitization** 

**Conclusion/Summary** : Not available.

**Mutagenicity** 

Conclusion/Summary : Not available.

**Carcinogenicity** 

Conclusion/Summary : Not available.

Reproductive toxicity

**Conclusion/Summary** : Not available.

**Teratogenicity** 

**Conclusion/Summary** : Not available. Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
n-butyl acetate	Category 3	-	Narcotic effects
Reaction mass of ethylbenzene and xylene	Category 3	-	Respiratory tract irritation
2-methoxy-1-methylethyl acetate	Category 3	-	Narcotic effects
4-methylpentan-2-one	Category 3	-	Narcotic effects
aromatic hydrocarbons, C9	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	Category 3	-	Narcotic effects
methyl methacrylate	Category 3	_	Respiratory tract irritation

#### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Reaction mass of ethylbenzene and xylene	Category 2	-	-

#### **Aspiration hazard**

Product/ingredient name	Result
Reaction mass of ethylbenzene and xylene aromatic hydrocarbons, C9 Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, <2% aromatics	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on the likely

: Not available.

routes of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Date of issue/Date of revision : 1-10-2022 Version: 1

**AkzoNobel** Date of previous issue : No previous validation 14/21

## **SECTION 11: Toxicological information**

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or

dizziness.

**Skin contact**: Causes skin irritation.

**Ingestion**: Can cause central nervous system (CNS) depression.

#### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact**: Adverse symptoms may include the following:

pain or irritation

watering redness

**Inhalation**: Adverse symptoms may include the following:

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness

**Skin contact**: Adverse symptoms may include the following:

irritation redness

**Ingestion**: No specific data.

#### Delayed and immediate effects and also chronic effects from short and long term exposure

**Short term exposure** 

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate

effects

: Not available.

Potential delayed effects : Not available.

#### Potential chronic health effects

Not available.

**Conclusion/Summary**: Not available.

**General**: May cause damage to organs through prolonged or repeated exposure.

**Carcinogenicity**: Suspected of causing cancer. Risk of cancer depends on duration and level of

exposure.

Mutagenicity : No known significant effects or critical hazards.Reproductive toxicity : No known significant effects or critical hazards.

Other information : Not available.

## **SECTION 12: Ecological information**

#### 12.1 Toxicity

There are no data available on the mixture itself.

Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

Date of issue/Date of revision : 1-10-2022 Version : 1

Date of previous issue : No previous validation 15/21 AkzoNobel

# **SECTION 12: Ecological information**

Product/ingredient name	Result	Species	Exposure
n-butyl acetate	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 100000 μg/l Fresh water	Fish - Lepomis macrochirus	96 hours
	Acute LC50 18000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 185000 µg/l Marine water	Fish - Menidia beryllina	96 hours
	Acute LC50 62000 µg/l Fresh water	Fish - Danio rerio	96 hours
Reaction mass of ethylbenzene and xylene	Acute LC50 13400 μg/l Fresh water	Fish - Pimephales promelas	96 hours
4-methylpentan-2-one	Acute LC50 505000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 540000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 537000 µg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 78 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas - Embryo	33 days
methyl methacrylate	Acute LC50 191000 μg/l Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 159100 μg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 160200 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 150000 µg/l Fresh water	Fish - Pimephales promelas - Adult	96 hours
	Acute LC50 130000 μg/l Fresh water	Fish - Pimephales promelas - Adult	96 hours
cyclohexanone	Acute EC50 32.9 mg/l Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase	72 hours
	Acute LC50 630000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 527000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 732000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
cumene	Acute EC50 2600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 7.4 mg/l Marine water	Crustaceans - Artemia sp Nauplii	48 hours
	Acute EC50 7.5 mg/l Marine water	Crustaceans - Artemia sp Nauplii	48 hours
	Acute EC50 10.6 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 10.6 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 11.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 7.4 mg/l Marine water	Crustaceans - Artemia sp Nauplii	48 hours
	Acute LC50 8 mg/l Marine water	Crustaceans - Artemia sp Nauplii	48 hours
	Acute LC50 20.3 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 20.3 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 6320 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 5100 µg/l Fresh water	Fish - Poecilia reticulata	96 hours
	Acute LC50 2700 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

**Conclusion/Summary** 

: Not available.

#### 12.2 Persistence and degradability

**Conclusion/Summary**: Not available.

Date of issue/Date of revision: 1-10-2022Version: 1Date of previous issue: No previous validation16/21AkzoNobel

## **SECTION 12: Ecological information**

#### 12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
n-butyl acetate	2.3	-	low
Reaction mass of ethylbenzene and xylene	3.12	8.1 to 25.9	low
2-methoxy-1-methylethyl acetate	1.2	-	low
4-methylpentan-2-one	1.9	-	low
4-morpholinecarbaldehyde	-	<1.9	low
methyl methacrylate	1.38	-	low
cyclohexanone	0.86	-	low
cumene	3.55	35.48	low

12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>)

: Not available.

**Mobility** : Not available.

#### 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**12.6 Other adverse effects**: No known significant effects or critical hazards.

### **SECTION 13: Disposal considerations**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

#### 13.1 Waste treatment methods

#### **Product**

Methods of disposal

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste

: The classification of the product may meet the criteria for a hazardous waste.

**Disposal considerations** 

: Do not allow to enter drains or watercourses.

Dispose of according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no

longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

#### European waste catalogue (EWC)

The European Waste Catalogue classification of this product, when disposed of as waste, is:

Waste code	Waste designation
EWC 08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

#### **Packaging**

Methods of disposal

: The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Date of issue/Date of revision: 1-10-2022Version: 1Date of previous issue: No previous validation17/21AkzoNobel

## **SECTION 13: Disposal considerations**

**Disposal considerations** 

: Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.

Empty containers must be scrapped or reconditioned.

Dispose of containers contaminated by the product in accordance with local or

national legal provisions.

Special precautions

: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## **SECTION 14: Transport information**

	ADR/RID	IMDG	IATA
14.1 UN number	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT	PAINT	PAINT
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	III	III	III
14.5 Environmental hazards	No.	No.	No.

#### **Additional information**

ADR/RID : Viscous liquid exception This class 3 viscous liquid is not subject to regulation in

packagings up to 450 L according to 2.2.3.1.5.1.

Tunnel code (D/E)

**IMDG** : Emergency schedules F-E, S-E

Viscous liquid exception This class 3 viscous liquid is not subject to regulation in

packagings up to 450 L according to 2.3.2.5.

user

14.6 Special precautions for : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in

the event of an accident or spillage.

14.7 Transport in bulk according to IMO

instruments

: Not applicable.

## **SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture EU Regulation (EC) No. 1907/2006 (REACH)

#### Annex XIV - List of substances subject to authorization

#### **Annex XIV**

None of the components are listed.

Substances of very high concern

Date of issue/Date of revision : 1-10-2022 Version : 1

**AkzoNobel** Date of previous issue : No previous validation 18/21

## SECTION 15: Regulatory information

None of the components are listed.

Annex XVII - Restrictions : Not applicable. on the manufacture,

placing on the market and use of certain dangerous substances, mixtures and articles

Other EU regulations

VOC : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the

product label and/or technical data sheet for further information.

**VOC for Ready-for-Use** 

**Mixture** 

: Not applicable.

: Listed

: Not listed

**Industrial emissions** 

(integrated pollution prevention and control) -

Air

**Industrial emissions** 

(integrated pollution

prevention and control) -

Water

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

**Seveso Directive** 

This product is controlled under the Seveso Directive.

**Danger criteria** 

Category

P<sub>5</sub>c

**National regulations** 

Industrial use : The information contained in this safety data sheet does not constitute the user's

own assessment of workplace risks, as required by other health and safety

legislation. The provisions of the national health and safety at work regulations apply

to the use of this product at work.

Flammable liquid class

(SRVFS 2005:10)

: 2a

**International regulations** 

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

**Montreal Protocol** 

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals** 

Not listed.

**Inventory list** 

Date of issue/Date of revision : 1-10-2022 Version : 1

**AkzoNobel** Date of previous issue : No previous validation 19/21

## **SECTION 15: Regulatory information**

**Europe** : Not determined.

15.2 Chemical Safety

**Assessment** 

: No Chemical Safety Assessment has been carried out.

#### **SECTION 16: Other information**

Indicates information that has changed from previously issued version.

Abbreviations and

: ATE = Acute Toxicity Estimate

acronyms

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No.

1272/2008]

DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level

EUH statement = CLP-specific Hazard statement

N/A = Not available

PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number

SGG = Segregation Group

vPvB = Very Persistent and Very Bioaccumulative

#### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Carc. 2, H351	Calculation method
STOT SE 3, H336	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Chronic 3, H412	Calculation method

#### Full text of abbreviated H statements

LIGOR	
H225	Highly flammable liquid and vapor.
H226	Flammable liquid and vapor.
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.
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

#### Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	AQUATIC HAZARD (LONG-TERM) - Category 2
Aquatic Chronic 3	AQUATIC HAZARD (LONG-TERM) - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Carc. 2	CARCINOGENICITY - Category 2
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITIZATION - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY (REPEATED

Date of issue/Date of revision :1-10-2022 Version :1

Date of previous issue : No previous validation 20/21 AkzoNobel

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878 FRS-40 SEMI-GLOSS BASE STAR SILVER 42 PH3/7223

### **SECTION 16: Other information**

STOT SE 3 EXPOSURE) - Category 2
SPECIFIC TARGET ORGA

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) -

Category 3

Date of printing : 3 October 2022 Date of issue/ Date of : 1 October 2022

revision

Date of previous issue : No previous validation

Version : 1 Unique ID :

**Notice to reader** 

#### FOR PROFESSIONAL USE ONLY

IMPORTANT NOTE The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advice given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

Brand names mentioned in this data sheet are trademarks of or are licensed to Akzo Nobel.

Date of issue/Date of revision : 1-10-2022 Version : 1

Date of previous issue : No previous validation 21/21 AkzoNobel