

SAFETY DATA SHEET

PJM INK K – Art.-Nr. 3062650000

Section 1. Identification

GHS product identifier : PJM INK K – Art.-Nr. 3062650000
Product code : Not available.
Other means of identification : Not available.
Product type : Liquid.

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

Product use : Ink. Paint.
Area of application : Professional applications.
Supplier's details : Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
32758 Detmold
Germany
Tel.: +49 5231 14-0
Fax: +49 5231 14-292083
E-Mail: info@weidmueller.de
Homepage: www.weidmueller.de

e-mail address of person responsible for this SDS : info@chemical-check.de; k.schnurbusch@chemical-check.de

Emergency telephone number (with hours of operation) : +49 (0) 700 / 24 112 112 (WR)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : H225 FLAMMABLE LIQUIDS - Category 2
H315 SKIN IRRITATION - Category 2
H318 SERIOUS EYE DAMAGE - Category 1
H317 SKIN SENSITIZATION - Category 1
H361 TOXIC TO REPRODUCTION - Category 2
H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements

Hazard pictograms :



Signal word : Danger

Section 2. Hazards identification

Hazard statements	: H225 - Highly flammable liquid and vapor. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H336 - May cause drowsiness or dizziness. H361 - Suspected of damaging fertility or the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure.
Precautionary statements	
Prevention	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P261 - Avoid breathing vapor or spray. P264 - Wash thoroughly after handling. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Response	: P308 + P313 - IF exposed or concerned: Get medical advice or attention. P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Storage	: P405 - Store locked up. P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	: None known.
Hazards identified when used	: No known significant effects or critical hazards.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.

Ingredient name	Synonyms	%	Identifiers
acetone	-	≥60 - ≤80	CAS: 67-64-1
butanone	-	≥10 - ≤30	CAS: 78-93-3
2-Propenoic acid, reaction products with pentaerythritol	-	≥10 - ≤30	CAS: 1245638-61-2
4-(1-oxo-2-propenyl)-morpholine	-	≥5 - ≤10	CAS: 5117-12-4
oxybis(methyl-2,1-ethanediyl) diacrylate	-	≥3 - ≤7	CAS: 57472-68-1
2-isopropyl-9H-thioxanthen-9-one	-	≥1 - ≤5	CAS: 5495-84-1
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	-	≥0.1 - ≤1	CAS: 162881-26-7
Glycerol, propoxylated, esters with acrylic acid	-	≥0.1 - ≤1	CAS: 52408-84-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

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

Section 4. First aid measures

Description of necessary first aid measures

- | | |
|---------------------|---|
| Eye contact | : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. |
| Inhalation | : Get medical attention immediately. Call a poison center or physician. 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. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Skin contact | : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| Ingestion | : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. 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. Chemical burns must be treated promptly by a 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. |

Most important symptoms/effects, acute and delayed

Potential acute health effects

- | | |
|---------------------|---|
| Eye contact | : Causes serious eye damage. |
| Inhalation | : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. |
| Skin contact | : Causes skin irritation. May cause an allergic skin reaction. |
| Ingestion | : Can cause central nervous system (CNS) depression. |

Over-exposure signs/symptoms

- | | |
|--------------------|--|
| Eye contact | : Adverse symptoms may include the following:
pain
watering
redness |
|--------------------|--|

Section 4. First aid measures

- Inhalation** : Adverse symptoms may include the following:
 nausea or vomiting
 headache
 drowsiness/fatigue
 dizziness/vertigo
 unconsciousness
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
 stomach pains
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog).
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Highly 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.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 sulfur oxides
 Toxic gases
 Flammable vapor/air mixtures.

Section 5. Fire-fighting measures

- 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.
- 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.

Section 6. Accidental release measures

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. Do not breathe 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".
- 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).

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. Absorb with an inert 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. 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. 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 retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

- Advice on general occupational hygiene** : 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.
- 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
acetone	ACGIH TLV (United States, 1/2025) A4. TWA 8 hours: 250 ppm. STEL 15 minutes: 500 ppm. NIOSH REL (United States, 10/2020) TWA 10 hours: 250 ppm. TWA 10 hours: 590 mg/m ³ . OSHA PEL (United States, 5/2018) TWA 8 hours: 1000 ppm. TWA 8 hours: 2400 mg/m ³ . CAL OSHA PEL (United States, 1/2025) STEL 15 minutes: 1780 mg/m ³ . STEL 15 minutes: 750 ppm. C: 3000 ppm. TWA 8 hours: 1200 mg/m ³ . TWA 8 hours: 500 ppm.
butanone	ACGIH TLV (United States, 1/2025) Absorbed through skin. TWA 8 hours: 75 ppm. STEL 15 minutes: 150 ppm. NIOSH REL (United States, 10/2020) TWA 10 hours: 200 ppm. TWA 10 hours: 590 mg/m ³ . STEL 15 minutes: 300 ppm. STEL 15 minutes: 885 mg/m ³ . OSHA PEL (United States, 5/2018) TWA 8 hours: 200 ppm. TWA 8 hours: 590 mg/m ³ . CAL OSHA PEL (United States, 1/2025) STEL 15 minutes: 885 mg/m ³ . STEL 15 minutes: 300 ppm. TWA 8 hours: 590 mg/m ³ . TWA 8 hours: 200 ppm.
2-Propenoic acid, reaction products with pentaerythritol 4-(1-oxo-2-propenyl)-morpholine	None. None.

Section 8. Exposure controls/personal protection

oxybis(methyl-2,1-ethanediyl) diacrylate	None.
2-isopropyl-9H-thioxanthen-9-one	None.
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	None.
Glycerol, propoxylated, esters with acrylic acid	None.

Biological exposure indices

Ingredient name	Exposure indices
acetone	ACGIH BEI (United States, 1/2025) BEI: 25 mg/l, acetone [in urine]. Sampling time: end of shift.
butanone	ACGIH BEI (United States, 1/2025) BEI: 2 mg/l, methyl ethyl ketone [in urine]. Sampling time: end of shift.

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.

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.

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. Contaminated work clothing should not be allowed out of the workplace. 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

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. 4 - 8 hours (breakthrough time): Recommended: Nitrile gloves. (<=0.5mm). Protective hand cream.

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.

Section 8. Exposure controls/personal protection

- 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. Recommended: In case of inadequate ventilation wear respiratory protection. Gas mask Filter A.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid.
- Color** : Black.
- Odor** : Characteristic.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Boiling point or initial boiling point and boiling range** : >35°C (>95°F)
- Flash point** : Closed cup: -14.5°C (5.9°F)
- Evaporation rate** : Not available.
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapor pressure** :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
acetone	180.01463	24				

- Relative vapor density** : Not available.
- Relative density** : Not available.
- Density** : 0.887 to 0.893 g/cm³ [20°C (68°F)]
- Solubility(ies)** : Not available.
- Partition coefficient: n-octanol/water** : Not applicable.
- Auto-ignition temperature** :

Ingredient name	°C	°F	Method
butanone	404	759.2	

- Decomposition temperature** : Not available.
- SADT** : Not available.
- Viscosity** : Dynamic (room temperature): 0.97 to 1.03 mPa·s (0.97 to 1.03 cP)
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): Not available.

Particle characteristics

- Median particle size** : Not applicable.

Section 9. Physical and chemical properties

Other information

Physical/chemical properties comments : Surface tension: 21,3-21,9 mN/m (20°C)

Section 10. Stability and reactivity

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

Chemical stability : The product is stable.

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

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.
Take precautionary measures against electrostatic discharges.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials
Reactive or incompatible with the following materials: reducing materials and alkalis.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	
acetone	Rat - Oral - LD50 5800 mg/kg	<u>Toxic effects</u> : Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Tremor
	Rat - Dermal - LD50 >15800 mg/kg	
	Rat - Inhalation - LC50 Dusts and mists 76 mg/l [4 hours]	
butanone	Rabbit - Dermal - LD50 6480 mg/kg	
	Rat - Oral - LD50 2737 mg/kg	
	Rat - Inhalation - LC50 Dusts and mists 34.5 mg/l [4 hours]	
4-(1-oxo-2-propenyl)-morpholine	Rat - Male, Female - Oral - LD50 588 mg/kg	OECD 401 [Acute Oral Toxicity]
	Rat - Male, Female - Dermal - LD50 >2000 mg/kg	OECD 402 [Acute Dermal Toxicity]
oxybis(methyl-2,1-ethanediyl) diacrylate	Rabbit - Male, Female - Dermal - LD50 >2000 mg/kg	OECD [Acute Dermal Toxicity]
	Rat - Oral - LD50	OECD [Acute Oral Toxicity]

Section 11. Toxicological information

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	2810 mg/kg Rat - Oral - LD50 >2000 mg/kg Rat - Dermal - LD50 >2000 mg/kg	OECD [Acute Oral Toxicity] OECD [Acute Dermal Toxicity]
Glycerol, propoxylated, esters with acrylic acid	Rat - Oral - LD50 >2000 mg/kg Rat - Dermal - LD50 >2000 mg/kg	OECD [Acute Oral Toxicity] OECD [Acute Dermal Toxicity]

Conclusion/Summary [Product] : Not available.

Skin corrosion/irritation

Product/ingredient name

acetone

Result

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Rabbit - Skin - Mild irritant

Amount/concentration applied: 395 mg

butanone

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 14 mg

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 24 hours

oxybis(methyl-2,1-ethanediyl) diacrylate

Amount/concentration applied: 402 mg

Rabbit - Skin - Severe irritant

Amount/concentration applied: 500 mg

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name

acetone

Result

Rabbit - Eyes - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 20 mg

Rabbit - Eyes - Severe irritant

Amount/concentration applied: 20 mg

Human - Eyes - Mild irritant

Amount/concentration applied: 186300 ppm

Rabbit - Eyes - Mild irritant

Amount/concentration applied: 10 uL

oxybis(methyl-2,1-ethanediyl) diacrylate

Rabbit - Eyes - Severe irritant

Amount/concentration applied: 100 mg

Conclusion/Summary [Product] : Not available.

Section 11. Toxicological information

Respiratory corrosion/irritation

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Product/ingredient name	Result	
acetone	Guinea pig - Respiratory <u>Result</u> : Not sensitizing	OECD [Skin Sensitization]
oxybis(methyl-2,1-ethanediyl) diacrylate	Mouse - skin <u>Result</u> : Sensitizing	OECD [Skin Sensitization]

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Product/ingredient name	Result	
acetone	Mammalian-Animal - Germ <u>Result</u> : Negative Bacteria <u>Result</u> : Negative Mammalian-Human <u>Result</u> : Negative Bacteria <u>Result</u> : Negative	OECD [In vitro Mammalian Cell Gene Mutation Test] OECD [Bacterial Reverse Mutation Test] OECD [In vitro Mammalian Chromosomal Aberration Test] OECD [Bacterial Reverse Mutation Test]
butanone		

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
acetone	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
butanone	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Specific target organ toxicity (repeated exposure)

Section 11. Toxicological information

Product/ingredient name

4-(1-oxo-2-propenyl)-morpholine

Result

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (oral) - Category 2

Aspiration hazard

Not available.

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- 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
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Section 11. Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary [Product] : Not available.

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
PJM INK K – Art.-Nr. 3062650000	2008.6	15500.0	N/A	N/A	N/A
acetone	5800	N/A	N/A	N/A	76
butanone	2737	6480	N/A	N/A	34.5
2-Propenoic acid, reaction products with pentaerythritol	500	N/A	N/A	N/A	N/A
4-(1-oxo-2-propenyl)-morpholine	588	2500	N/A	N/A	N/A
oxybis(methyl-2,1-ethanediyl) diacrylate	2810	2500	N/A	N/A	N/A
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	2500	2500	N/A	N/A	N/A
Glycerol, propoxylated, esters with acrylic acid	2500	2500	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

acetone

Result

Acute - LC50 - Fresh water

Daphnia - Water flea - *Daphnia magna*
10 mg/l [48 hours]

Effect: Mortality

Chronic - NOEC - Marine water

Algae - Green algae - *Ulva pertusa*
4.95 mg/l [96 hours]

Effect: Reproduction

Acute - EC50 - Marine water

Algae - Green algae - *Ulva pertusa*
20.565 mg/l [96 hours]

Effect: Reproduction

Chronic - NOEC - Fresh water

Crustaceans - Daphnia - *Daphniidae*
0.016 ml/l [21 days]

Effect: Population

Chronic - NOEC - Marine water

Fish - Threespine stickleback -
Gasterosteus aculeatus - Larvae

Effect: Growth

Section 12. Ecological information

	Age: 7 days 5 µg/l [42 days] Acute - LC50 - Fresh water Fish - Guppy - <i>Poecilia reticulata</i> Age: 4 to 12 months; Size: 2 to 10 cm; Weight: 0.5 to 14 g 5600 ppm [96 hours] Acute - EC50 - Fresh water Daphnia - Water flea - <i>Daphnia magna</i> - Larvae Age: <24 hours 5091 mg/l [48 hours] Acute - LC50 - Fresh water Fish - Fathead minnow - <i>Pimephales</i> <i>promelas</i> Age: 31 days; Size: 22 mm; Weight: 0.167 g 3220 mg/l [96 hours] Acute - EC50 - Marine water Algae - Diatom - <i>Skeletonema costatum</i> >500 mg/l [96 hours]	<u>Effect</u> : Mortality
butanone	Acute - LC50 - Fresh water Fish - Fathead minnow - <i>Pimephales</i> <i>promelas</i> Age: 31 days; Size: 22 mm; Weight: 0.167 g 3220 mg/l [96 hours] Acute - EC50 - Marine water Algae - Diatom - <i>Skeletonema costatum</i> >500 mg/l [96 hours]	<u>Effect</u> : Intoxication
2-Propenoic acid, reaction products with pentaerythritol	Acute - LC50 - Fresh water Fish - <i>Cyprinus carpio</i> 3.2 mg/l [96 hours] Acute - EC50 - Fresh water Daphnia - Daphnia - <i>Daphnia magna</i> 13 mg/l [48 hours]	OECD [Fish, Acute Toxicity Test] OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test]
4-(1-oxo-2-propenyl)-morpholine	Acute - LC50 Fish >220 mg/l [96 hours] Acute - EC50 Daphnia 120 mg/l [48 hours] Acute - EC50 Algae >120 mg/l [72 hours] Acute - NOEC Fish 102 mg/l [96 hours] Acute - NOEC Daphnia 46 mg/l [48 hours] Acute - NOEC Algae ≥120 mg/l [72 hours]	OECD 203 [Fish, Acute Toxicity Test] OECD 202 [Daphnia sp. Acute Immobilization Test and Reproduction Test] OECD 201 [Alga, Growth Inhibition Test] OECD 203 [Fish, Acute Toxicity Test] OECD 202 [Daphnia sp. Acute Immobilization Test and Reproduction Test] OECD 201 [Alga, Growth Inhibition Test]
oxybis(methyl-2,1-ethanediyl) diacrylate	LC50 Fish 2.2 to 4.64 mg/l [96 hours] EC50 Daphnia 22.3 mg/l [48 hours] EC50 Algae 16.7 mg/l [72 hours]	
2-isopropyl-9H-thioxanthen-9-one	EC50	

Section 12. Ecological information

Glycerol, propoxylated, esters with acrylic acid	Daphnia	
	>0.028 mg/l [48 hours]	
	NOEC	
	Daphnia	
	>0.028 mg/l [48 hours]	
	EC50	
	Algae	
	>0.047 mg/l [72 hours]	
	NOEC	
	Algae	
	0.005 mg/l [72 hours]	
	Acute - LC50	OECD [Fish, Acute Toxicity Test]
	Fish	
	5.74 mg/l [96 hours]	
	Acute - EC50	OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test]
	Daphnia	
	91.4 mg/l [48 hours]	
	Acute - EC50	OECD [Alga, Growth Inhibition Test]
	Algae	
	12.2 mg/l [72 hours]	

Conclusion/Summary [Product] : Not available.

Persistence and degradability

Product/ingredient name	Result	
acetone	Aerobic 91% [28 days] - Readily	OECD [Ready Biodegradability - CO ₂ Evolution Test]
butanone	98% [28 days] - Readily	OECD [Ready Biodegradability - Closed Bottle Test]
2-Propenoic acid, reaction products with pentaerythritol	Aerobic - 21 mg/l 14% [28 days] - Not readily	OECD [Ready Biodegradability - CO ₂ Evolution Test]
4-(1-oxo-2-propenyl)-morpholine	Aerobic 1.4% [28 days] - Not readily	OECD 310 [Ready Biodegradability - CO ₂ in Sealed Vessels (Headspace Test)]
oxybis(methyl-2,1-ethanediyl) diacrylate	90 to 100% [28 days]	OECD [Ready Biodegradability - DOC Die-Away Test]
2-isopropyl-9H-thioxanthen-9-one	5% [28 days]	
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	1% [29 days] - Not readily	OECD [Ready Biodegradability - CO ₂ Evolution Test]
Glycerol, propoxylated, esters with acrylic acid	72 to 85% [28 days] - Readily	OECD [Ready Biodegradability - CO ₂ Evolution Test]

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
acetone	-	-	Readily
butanone	-	-	Readily
2-Propenoic acid, reaction products with pentaerythritol	-	-	Not readily
4-(1-oxo-2-propenyl)-morpholine	-	-	Not readily
oxybis(methyl-2,1-ethanediyl) diacrylate	-	-	Readily
2-isopropyl-9H-thioxanthen-	-	-	Not readily

Section 12. Ecological information

9-one Glycerol, propoxylated, esters with acrylic acid	-	-	Readily
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Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
acetone	-0.23	-	Low
butanone	0.3	-	Low
2-Propenoic acid, reaction products with pentaerythritol	1.45	-	Low
4-(1-oxo-2-propenyl)- morpholine	-0.46	-	Low
oxybis(methyl-2,1-ethanediyl) diacrylate	0.01 to 0.39	-	Low
2-isopropyl-9H-thioxanthen- 9-one	5.59	-	High
phenyl bis (2,4,6-trimethylbenzoyl)- phosphine oxide	5.77	<5	Low
Glycerol, propoxylated, esters with acrylic acid	2.52	-	Low

Mobility in soil

Soil/Water partition coefficient : Not available.

Other adverse effects

No known significant effects or critical hazards.








Section 13. Disposal considerations

Disposal methods : 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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.

RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Acetone (I)	67-64-1	Listed	U002
Methyl ethyl ketone (MEK) (I,T)	78-93-3	Listed	U159

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number	UN1210	UN1210	UN1210	UN1210	UN1210
UN proper shipping name	Printing ink	PRINTING INK	TINTA DE IMPRENTA	PRINTING INK	Printing ink
Transport hazard class(es)	3 	3  	3 	3  	3 
Packing group	II	II	II	II	II
Environmental hazards	No.	Yes.	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

DOT Classification

- : **Reportable quantity** 8333.3 lbs / 3783.3 kg [1123 gal / 4250.9 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- Limited quantity** Yes.
- Packaging instruction** Exceptions: 150. Non-bulk: 173. Bulk: 242.
- Quantity limitation** Passenger aircraft/rail: 5 L. Cargo aircraft: 60 L.
- Special provisions** 149, 367, IB2, T4, TP1, TP8

TDG Classification

- : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.
- Explosive Limit and Limited Quantity Index** 5
- Passenger Carrying Road or Rail Index** 5
- Special provisions** 59, 142

Mexico Classification

- : **Special provisions** 163, 367

IMDG

- : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
- Emergency schedules** F-E, S-D
- Special provisions** 163, 367

IATA

- : The environmentally hazardous substance mark may appear if required by other transportation regulations.
- Quantity limitation** Passenger and Cargo Aircraft: 5 L. Packaging instructions: 353. Cargo Aircraft Only: 60 L. Packaging instructions: 364. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y341.
- Special provisions** A3, A72, A192

Special precautions for user : **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.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 5(a)2 proposed significant new use rules: 4-(1-oxo-2-propenyl)-morpholine
 TSCA 5(a)2 final significant new use rules: 4-(1-oxo-2-propenyl)-morpholine
 TSCA 5(e) substance consent order: 4-(1-oxo-2-propenyl)-morpholine
 TSCA 8(a) CDR Exempt/Partial exemption: Not determined
 United States inventory (TSCA 8b): All components are active or exempted.

TSCA 12(b) - Chemical export notification

Name	One time notification		Annual notification		
	4	5	5(f)	6	7
2-propen-1-one, 1-(4-morpholinyl)-	Not listed	Listed	Not listed	Not listed	Not listed

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : FLAMMABLE LIQUIDS - Category 2
 SKIN IRRITATION - Category 2
 SERIOUS EYE DAMAGE - Category 1
 SKIN SENSITIZATION - Category 1
 TOXIC TO REPRODUCTION - Category 2
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Composition/information on ingredients

Name	%	Classification
acetone	≥60 - ≤80	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 HNOC - Defatting irritant
butanone	≥10 - ≤30	FLAMMABLE LIQUIDS - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 HNOC - Defatting irritant
2-Propenoic acid, reaction products with pentaerythritol	≥10 - ≤30	ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2

Section 15. Regulatory information

4-(1-oxo-2-propenyl)-morpholine	≥5 - ≤10	SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 ACUTE TOXICITY (oral) - Category 4 SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
oxybis(methyl-2,1-ethanediyl) diacrylate	≥3 - ≤7	SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1
2-isopropyl-9H-thioxanthen-9-one	≥1 - ≤5	TOXIC TO REPRODUCTION - Category 2
phenyl bis (2,4,6-trimethylbenzoyl)-phosphine oxide	≥0.1 - ≤1	SKIN SENSITIZATION - Category 1A
Glycerol, propoxylated, esters with acrylic acid	≥0.1 - ≤1	EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1

SARA 313

Not applicable.

State regulations

Massachusetts	: The following components are listed: ACETONE; METHYL ETHYL KETONE
New York	: The following components are listed: Acetone; Methyl ethyl ketone
New Jersey	: The following components are listed: ACETONE; METHYL ETHYL KETONE
Pennsylvania	: The following components are listed: 2-PROPANONE; 2-BUTANONE

California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

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.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	3
Flammability		3
Physical hazards		0

Section 16. Other information

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
SKIN IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
TOXIC TO REPRODUCTION - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method

History

Date of issue/Date of revision	: 11/24/2025
Date of previous issue	: No previous validation
Version	: 1
Prepared by	: Chemical Check GmbH
Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods IMO = International Maritime Organization LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available SGG = Segregation Group TDG = Transportation of Dangerous Goods UN = United Nations
References	: HCS (U.S.A.) - Hazard Communication Standard International transport regulations

Indicates information that has changed from previously issued version.

Notice to reader

Section 16. Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.