

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

1.1. Product identifier

Product form : Mixture
 Trade name : ALBERDINGK® U 410
 Other means of identification : Binding Agent

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

Use of the substance/mixture : No information Available

1.3. Details of the supplier of the safety data sheet

ALBERDINGK BOLEY INC
 6008 W. Gate City Boulevard
 Greensboro, NC 27407 - USA
 T +1-866-220-4750 - F 336-454-5007
trm@alberdingk-boley.de - www.alberdingk.com

1.4. Emergency telephone number

Emergency number : Emergency Contact (24-Hour-Number): Chemtrec 1800-424-9300 or 1-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Repr. 2 H361

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) : Danger
 Hazard statements (GHS-US) : H361 - Suspected of damaging fertility or the unborn child
 Precautionary statements (GHS-US) : P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P308+P313 - If exposed or concerned: Get medical advice/attention
 P405 - Store locked up
 P501 - Dispose of contents/container according to regional/national/international regulations

2.3. Other hazards

Other hazards not contributing to the classification : No Information Available.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
1-methyl-2-pyrrolidone	(CAS No) 872-50-4	1 - 2	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Repr. 2, H361 STOT SE 3, H336

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Name	Product identifier	%	Classification (GHS-US)
N-ethyl morpholine	(CAS No) 100-74-3	1 - 2	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302
1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one	(CAS No) 2634-33-5	< 0.03	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400
2-methylisothiazol-3(2H)-one	(CAS No) 2682-20-4	< 0.007	Not classified

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

- Symptoms/injuries : Suspected of damaging fertility or the unborn child.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Reactivity : No reliable data available.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Good ventilation of the workplace required.

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- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
- Handling temperature : 5 - 30 °C

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : No additional information available.
- Storage conditions : Protect against frost. Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight.
- Maximum storage period : 6 months
- Storage temperature : 10 - 30 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

N-ethyl morpholine (100-74-3)		
USA ACGIH	ACGIH TWA (ppm)	5 ppm
USA ACGIH	ACGIH STEL (ppm)	5 ppm
USA ACGIH	Remark (ACGIH)	URT irr; eye dam
USA OSHA	OSHA PEL (TWA) (mg/m ³)	94 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	20 ppm

8.2. Exposure controls

- Personal protective equipment : Avoid all unnecessary exposure.
- Hand protection : Wear protective gloves.
- Eye protection : Chemical goggles or safety glasses.
- Respiratory protection : Wear appropriate mask.
- Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Color : White
- Odor : characteristic
- Odor threshold : No data available
- pH : 7 - 8
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : 0 °C
- Freezing point : 0 °C
- Boiling point : 100 °C
- Flash point : No data available
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability (solid, gas) : No data available
- Vapor pressure : 2.3 kPa
- Relative vapor density at 20 °C : No data available
- Relative density : No data available
- Specific gravity / density : 1.05 g/cm³
- Percent Solids : 39 - 41 %
- Solubility : Soluble in water.
Water: Solubility in water of component(s) of the mixture

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Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 20 - 200 mPa.s
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No reliable data available.

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

1-methyl-2-pyrrolidone (872-50-4)	
LD50 oral rat	3914 mg/kg (Rat; Equivalent or similar to OECD 401; Literature study; 4150 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rat	7000 mg/kg (Rat; Literature study)
LD50 dermal rabbit	8000 mg/kg (Rabbit; Literature study; Equivalent or similar to OECD 402; >5000 mg/kg bodyweight; Rabbit; Experimental value)
LC50 inhalation rat (mg/l)	> 5.1 mg/l/4h (Rat; Experimental value)
ATE US (oral)	3914.00000000 mg/kg body weight
ATE US (dermal)	7000.00000000 mg/kg body weight

1,2-benzisothiazol-3(2H)-one, 1,2-benzisothiazolin-3-one (2634-33-5)	
ATE US (oral)	500.00000000 mg/kg body weight

N-ethyl morpholine (100-74-3)	
LD50 oral rat	1780 mg/kg (Rat)
ATE US (oral)	1780.00000000 mg/kg body weight

Skin corrosion/irritation	: Not classified pH: 7 - 8
Serious eye damage/irritation	: Not classified pH: 7 - 8
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
Specific target organ toxicity (single exposure)	: Not classified

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Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

1-methyl-2-pyrrolidone (872-50-4)	
LC50 fish 1	3048 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Cool water)
EC50 Daphnia 1	4897 mg/l (48 h; Daphnia magna)
LC50 fish 2	832 mg/l (96 h; Lepomis macrochirus; Warm water)
EC50 Daphnia 2	4655 mg/l (Gammarus sp.)
Threshold limit algae 1	> 500 mg/l (Scenedesmus subspicatus)
Threshold limit algae 2	600.5 mg/l (72 h; Desmodesmus subspicatus; Growth rate)

12.2. Persistence and degradability

ALBERDINGK® U 410	
Persistence and degradability	Not established.

1-methyl-2-pyrrolidone (872-50-4)	
Persistence and degradability	Readily biodegradable in water. Inherently biodegradable. Biodegradable in the soil. Photodegradation in the air.
Biochemical oxygen demand (BOD)	1.07 g O ₂ /g substance
Chemical oxygen demand (COD)	1.56 g O ₂ /g substance
ThOD	1.9 g O ₂ /g substance
BOD (% of ThOD)	0.56 % ThOD

N-ethyl morpholine (100-74-3)	
Persistence and degradability	Biodegradability in water: no data available.

12.3. Bioaccumulative potential

ALBERDINGK® U 410	
Bioaccumulative potential	Not established.

1-methyl-2-pyrrolidone (872-50-4)	
Log Pow	-0.73 - -0.46 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

N-ethyl morpholine (100-74-3)	
Log Pow	0.14
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

1-methyl-2-pyrrolidone (872-50-4)	
Surface tension	0.407 N/m

12.5. Other adverse effects

Effect on ozone layer	: No additional information available
Effect on the global warming	: No known ecological damage caused by this product.
Other information	: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to ...
Ecology - waste materials	: Avoid release to the environment.

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SECTION 14: Transport information

In accordance with DOT
Not regulated for transport

Additional information

Other information : No supplementary information available.

ADR

Transport document description :

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

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Listed on the United States TSCA (Toxic Substances Control Act) inventory

The components of this product are in compliance with the requirements of the Toxic Substances Control Act (TSCA). One of the components of this product is exempt from the TSCA Inventory listing requirements under the provisions of the TSCA Polymer Exemption (PE); 40 CFR 732.250. According to PE rules, the importer of record is required to submit, during January of the year following the first import of an exempted polymer, a onetime notification to EPA of the number of polymer exemptions used for the first time in the previous calendar year.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

1-methyl-2-pyrrolidone (872-50-4)

Listed on United States SARA Section 313

15.2. International regulations

CANADA

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Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

ALBERDINGK® U 410

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

15.2.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity

1-methyl-2-pyrrolidone (872-50-4)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
	Yes			

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SECTION 16: Other information

Other information :
: None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Flam. Liq. 4	Flammable liquids Category 4
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H226	Flammable liquid and vapor
H227	Combustible liquid
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H361	Suspected of damaging fertility or the unborn child
H400	Very toxic to aquatic life

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product