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1 Identification

- · Product identifier
 - Trade name: Jowacoll 110.60
 - · Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

Application of the substance / the mixture

Dispersion glue

Adhesives

· Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Jowat Corporation 6058 Lois Lane Archdale, NC 27263 Phone: 336-434-9000 Fax: 336-434-9019 info@jowat.com

Department issuing MSDS:

Environmental management

Tel. +49 5231 749 -218 / -211 / -270 e-mail: umweltmanagement@jowat.de Information provided by department:

Jowat Canada Ltd. P.O. Box 149

Mississauga, ON L5M 2B7 +1 336 434-9154 Tel.: +1 336 434-9184 Fax: E-Mail: canada@jowat.com

· Emergency telephone number: 1 800 424 9300 (Chemtrec 24 hours service)

2 Hazard identification

· Classification of the substance or mixture

The product is not classified, according to the Globally Harmonized System (GHS).

- · Label elements
 - · GHS label elements Void
 - · Hazard pictograms Void
 - · Signal word Void
 - · Hazard statements Void
- Other hazards
 - Results of PBT and vPvB assessment
 - · **PBT:** Not applicable.
 - · vPvB: Not applicable.

3 Composition/Information on ingredients

· Chemical characterization: Mixtures

· Description:

aqueous polymer emulsion with organic solvent polyvinyl acetate

Dangerous components:

CAS: 67-64-1 RTECS: AL 3150000

acetone

1-<5% w/w *

- Actual concentration ranges are withheld as a trade secret.
- · **SVHC** Not applicable.

4 First aid measures

- · Description of first aid measures
 - **General information**

Immediately remove any clothing soiled by the product.

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No special measures required.

· After skin contact

Immediately wash with water and soap and rinse thoroughly.

Generally the product does not irritate the skin.

- · After eye contact Rinse opened eye for several minutes under running water.
- · After swallowing If symptoms persist consult physician.
- · Information for physician
 - · Most important symptoms and effects, both acute and delayed

No further relevant information available.

· Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

- · Extinguishing media
 - · Suitable extinguishing agents

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol-resistant foam.

- For safety reasons unsuitable extinguishing agents Water in a full jet.
- · Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
 - · Protective equipment: Do not inhale explosion gases or combustion gases.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Keep away from sources of ignition

Environmental precautions:

Do not allow product to reach sewer system or open water.

Prevent from spreading (e.g. by damming-in or oil barriers).

 \cdot Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, general-purpose binders, sawdust).

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· Handling

· Precautions for safe handling

Store in cool, dry place in tightly closed containers.

Open and handle containers with care.

Prevent formation of aerosols.

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Conditions for safe storage, including any incompatibilities

- Storage
 - · Requirements to be met by storage facilities and containers:

Prevent any seepage into the ground.

- · Information concerning mixed product storage facilities: Not required.
- · Further information on storage conditions:

Protect from frost.

Keep container tightly sealed.

- Storage class 12
- · Specific end use(s) No further relevant information available.

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8 Exposure controls/ Personal protection

· Control parameters

| · Components with limit values that require monitoring in the workplace: | | | |
|--|---|--|--|
| 67-64-1 acetone | | | |
| EL (Canada) | Short-term value: 500 ppm Long-term value: 250 ppm | | |
| EV (Canada) | Short-term value: 750 ppm Long-term value: 500 ppm | | |

· Regulatory information

EL (Canada): O. Reg. 287/17

EV (Canada): OHS Guidelines Part 5, Table of Exposure Limits for Chemical and Biological

Substances

Additional information:

The lists that were valid at the date of compilation of this MSDS were used as basis.

Exposure controls

· Personal protective equipment

General protection and hygiene precautions

The standard precautionary measures for handling chemicals should be observed.

Wash hands before breaks and at the end of work.

· Breathing equipment:

Use suitable respiratory protective device in case of insufficient ventilation.

Filter AX (boining point < 61 °C); Filter A (boiling point > 60 °C).

Has to be worn only if no adequate extraction system is operating when sprayed.

Filter A/P2

Protection of hands: Not required.

· Penetration time of glove material

Please contact the glove manufacturer for the exact time of penetration/resistance level and observe this limit.

In case of permanent contact in work areas where the risk of injury is low (e.g. labs) gloves made of the following material are suitable:

Plastic gloves

· In case of permanent contact, gloves made of the following materials are suitable:

Plastic gloves

The following materials are unsuitable for gloves:

Leather gloves Strong gloves

· Eye protection: Goggles recommended during refilling an spraying.

9 Physical and chemical properties

| Information on basic physical and chemical properties General Information | | |
|--|-----------------|-------|
| Appearance: | | |
| · Form: | Fluid | |
| · Color: | White | |
| · Odor: | Characteristic | |
| · Odor threshold: | Not determined. | |
| · pH-value at 20 °C: | 4.5 | |
| · Change in condition | | |
| · Melting point/Melting range: | undetermined | |
| · Boiling point/Boiling range: | 100 °C | |
| · Flash point: | Not applicable | |
| · Flammability (solid, gaseous) | Not applicable. | |
| | | (2 11 |

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| | , , , | |
|--|---|--|
| Decomposition temperature: | Not determined. | |
| · Self-igniting: | Product is not selfigniting. | |
| · Danger of explosion: | Product does not present an explosion hazard. | |
| · Explosion limits: | | |
| · Lower: | Not determined. | |
| · Upper: | Not determined. | |
| · Vapor pressure: | Not determined. | |
| · Density at 20 °C: | 1.07 g/cm³ | |
| Relative density | Not determined. | |
| · Vapor density | Not determined. | |
| Evaporation rate | Not determined. | |
| · Solubility in / Miscibility with | | |
| · Water: | Fully miscible | |
| Partition coefficient (n-octanol/water): Not determined. | | |
| · Viscosity: | | |
| · dynamic at 20 °C: | 12,500 mPas | |
| · kinematic: | Not determined. | |
| · Solvent content: | | |
| · Organic solvents: | 2.0 % | |
| · Solid content: | 59.0 % | |
| Other information | No further relevant information available. | |
| · VOC - Volatile Organic Compounds | S | |
| European Union | 2.07 % | |
| · Switzerland | 2.01 % | |
| · U.S.A (less water and less exemp | ots) 0.8 g/l / 0.01 lb/gal | |

10 Stability and reactivity

- · Reactivity No further relevant information available.
 - · Chemical stability
 - Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

Possibility of hazardous reactions

Develops readily flammable gases / fumes

Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomized No dangerous reactions known

- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- Hazardous decomposition products:

Flammable gases/vapors

Carbon monoxide and carbon dioxide

Ethanoic acid

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

| · LD/LC50 values that are relevant for classification: | | | |
|--|-------------|-----------------------|--|
| 67-64-1 acetone | | | |
| Oral | LD50 oral | 3,592 mg/kg (rat) | |
| Dermal | LD50 dermal | 15,688 mg/kg (rabbit) | |

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| Inhalativ | e LC50 / 4 h | 76 mg/l (rat) | (Conta. or page 1) |
|-----------|----------------|---|--------------------|
| 55965-8 | 4-9 mixture of | methylchloroisothiazolinone and methylisothiazolinone | |
| Oral | LD50 oral | 67 mg/kg (rat) | |

· Primary irritant effect:

- on the skin: No irritant effect. on the eye: No irritating effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations (Directive 1999/45/EC of the European Parliament and of the Council) as issued in the latest version:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

| · OSHA-Ca (Occupational Safety & Health Administration) |
|---|
| None of the ingredients is listed. |

12 Ecological information

· Toxicity

| · Aquatic toxicity: | | | | |
|---------------------|---|--|--|--|
| 67-64-1 ace | 67-64-1 acetone | | | |
| LC50 / 96 h | 5,540 mg/l (rainbow trout) | | | |
| LC50 / 48 h | 7,500 mg/l (orfe (ide)) | | | |
| EC50 / 48 h | 8,800 mg/l (water flea) | | | |
| EC50 / 16 h | 16 h 1,700 mg/l (activated sludge) | | | |
| NOEC | 3,400 mg/l (green algae) | | | |
| 55965-84-9 | 55965-84-9 mixture of methylchloroisothiazolinone and methylisothiazolinone | | | |
| LC50 / 96 h | 0.32 mg/l (bluegill sunfish) | | | |
| | 0.22 mg/l (rainbow trout) | | | |
| EC50 / 48 h | 0.12 mg/l (water flea) | | | |
| EC50 / 3 h | EC50 / 3 h 7.92 mg/l (activated sludge) | | | |
| EC50 | 0.043 mg/l (n.a.) | | | |
| EC50 / 72 h | h 0.048 mg/l (green microalgae) (SPO12089) | | | |
| NOEC | 0.035 mg/l (water flea) | | | |

- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
 - · Bioaccumulative potential No further relevant information available.
 - · Mobility in soil No further relevant information available.
- · Ecotoxical effects:

| | Noxioui circoto. |
|-----|--|
| · B | ehavior in sewer plants: |
| | 65-84-9 mixture of methylchloroisothiazolinone and methylisothiazolinone |
| EC2 | 20 / 0,5 h 0.97 mg/l (activated sludge) |

Additional ecological information:

| · CSB-value: | |
|-----------------------|--|
| 67-64-1 acetone | |
| CSB 2,210 mg/g (n.a.) | |

General remarks:

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· Results of PBT and vPvB assessment

· PBT: Not applicable.

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· **vPvB**: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewer system.

· Uncleaned containers/packaging materials:

Recommendation:

Dispose of packaging according to regulations on the disposal of packagings.

Empty contaminated packaging thoroughly. They can be recycled after thorough and proper cleaning.

Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

· Recommended cleaning agent: Water, if necessary with cleaning agents.

European waste disposal key number:

Packaging with uncured adhesive residues:

15 01 10 - Packaging containing residues of dangerous substances or contaminated by dangerous substances.

Packaging with cured adhesive residues:

15 01 02 - Plastic packaging;

15 01 04 - Metal packaging.

14 Transport information

| · UN-Number · DOT, TDG, ADN, IMDG, IATA | Void |
|--|-----------------------|
| · UN proper shipping name · DOT, TDG, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | |
| · DOT, TDG, ADN, IMDG, IATA · Class | Void |
| · Packing group · DOT, TDG, IMDG, IATA | Void |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Not applicable. |
| Transport in bulk according to Annex II MARPOL73/78 and the IBC Code | of Not applicable. |
| · UN "Model Regulation": | Void |

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

| | • | | • | |
|------------------------------------|----------------------|------------|--------|--|
| · SARA Section 35 | (extremely hazardou | s subst | ances) | |
| None of the ingredients is listed. | | | | |
| · SARA Section 311 | (specific toxic chem | ical lieti | nae) | |

SARA Section 313 (specific toxic chemical listings)

124-17-4 2-(2-butoxyethoxy)ethyl acetate

TSCA (Toxic Substances Control Act) (Substances not listed)

All ingredients are listed.

Canadian Domestic Substances List (DSL) (Substances not listed)

127-96-8 Potassium trihydrogen dioxalate

· Canadian Non Domestic Substances List (NDSL) (Substances not listed)

None of the ingredients is listed.

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· Canadian ingredient disclosure list

| · Limit 0,1 % | | |
|------------------------------------|--|--|
| None of the ingredients is listed. | | |
| · Limit 1 % | | |
| 67-64-1 acetone | | |

| Cancerogenity categories | | |
|--------------------------|--|---------|
| · EPA | (Environmental Protection Agency) | |
| acetone | | I |
| ·TLV | Threshold Limit Value established by ACGIH) | |
| 9005-25-8 | Starch | A4 |
| 67-64-1 | acetone | A4 |
| · NIOS | H-Ca (National Institute for Occupational Safety and | Health) |
| None of the | ingredients is listed. | |

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

These data are based on our present state of information. They shall, however, not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. All standard industrial precautions apply, concerning protection of health, and safe handling. The recommendations have to be examined in the context of the application for which the product is intended, and observed as necessary.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic SVHC: Substances of Very High Concern vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health