

Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

Date of compilation: 2024-03-28

Replaces version of: 2024-03-27

SECTION 1: Identification

1.1 Product identifier

Product name/Code R5181
Product description Self Cross-Linking Acrylic Emulsion

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

Relevant identified uses
Polymer
Uses advised against
All uses other than those indicated on the product label and technical data sheet.

1.3 Details of the supplier of the safety data sheet

Essential Polymers
28391 Essential Road
P.O. Box 12
Merton 53089 WI
United States

Telephone: 262-538-0091
Website: www.essentialpolymers.com

1.4 Emergency telephone number

Emergency information service 800-843-6174 (24 hours)

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)
Skin Sens. 1.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word Warning
- Pictograms



- Hazard statements
May cause an allergic skin reaction.
- Precautionary statements
Avoid breathing dust/fume/gas/mist/vapors/spray.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
Specific treatment (see on this label).
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

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- Precautionary statements

Dispose of contents/container to industrial combustion plant.

Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

2.3 Other hazards

of no significance

SECTION 3: Composition/information on ingredients

3.1 Substance / Mixture

Mixture

3.2 Mixtures

Description of the mixture

| Name of substance | CAS No | Wt% | Classification acc. to GHS |
|---|--------------|---------|--|
| Coupling Agent | Trade Secret | 1 - < 5 | Skin Irrit. 2 / H315 Eye Irrit. 2A / H319 STOT SE 3 / H335 |
| Zinc(2+), tetraammine-, (T-4)-, carbonate (1:1) | 38714-47-5 | 1 - < 5 | Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Skin Sens. 1 / H317 |

Remarks

Any concentration shown as a range is to protect confidentiality or is due to batch variation. 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 and hence require reporting in this section. For full text of abbreviations: see SECTION 16.

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO₂)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (SCBA). Standard protective clothing for firefighters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it in accordance with all local, state and federal regulations.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Environmental Controls

Protect against external exposure, such as

frost

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)
this information is not available

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear appropriate respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

| | |
|----------------|-------------|
| Physical state | liquid |
| Color | Milky white |
| Odor | Bland |

Other safety parameters

| | |
|---|----------------------------|
| pH (value) | 7.3 – 8.3 |
| Melting point/freezing point | 0 °C (32 °F) |
| Initial boiling point and boiling range | 100 °C (212 °F) |
| Flash point | >93.33 °C (>200 °F) (c.c.) |
| Lower explosion limit (LEL) | not determined |
| Upper explosion limit (UEL) | not determined |
| Evaporation rate | not determined |
| Flammability (solid, gas) | not relevant, (fluid) |
| Vapor pressure | <4 kPa at 20 °C |
| Density | 1.05 g/cm ³ |
| Vapor density | <1 (Air=1) |
| Solubility(ies) | not determined |
| VOC | 0% |

Partition coefficient

| | |
|-----------------------------|-----------------------------------|
| - n-octanol/water (log KOW) | this information is not available |
| Auto-ignition temperature | not determined |
| Decomposition temperature | not determined |
| Viscosity | not determined |

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SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidizers

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic.

| Acute toxicity of components | | | | | |
|---|--------------|----------------|----------|--------------|---------|
| Name of substance | CAS No | Exposure route | Endpoint | Value | Species |
| Coupling Agent | Trade Secret | oral | LD50 | >2,000 mg/kg | rat |
| Coupling Agent | Trade Secret | dermal | LD50 | >2,000 mg/kg | rat |
| Zinc(2+), tetraammine-, (T-4)-, carbonate (1:1) | 38714-47-5 | oral | LD50 | >2,000 mg/kg | rat |

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

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Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components

| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
|-------------------|--------------|----------|----------|-----------------------|---------------|
| Coupling Agent | Trade Secret | LC50 | 180 mg/l | fish | 96 h |
| Coupling Agent | Trade Secret | EC50 | 20 mg/l | aquatic invertebrates | 48 h |
| Coupling Agent | Trade Secret | ErC50 | >17 mg/l | algae | 72 h |

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$.

12.7 Other adverse effects

Data are not available.

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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Dispose of contents/container in accordance with local/regional/national/international regulations. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Dispose of contents/container to an authorized waste treatment facility. Waste should not be disposed of by release to sewers. Avoid release to the environment. Empty container and inner liner may contain product residues. Ideally, waste should be prevented and what cannot be prevented should be re-used, recycled and recovered as much as feasible.

SECTION 14: Transport information

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Not subject to transport regulations.

International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations

Toxic Substance Control Act (TSCA) all ingredients are listed (ACTIVE) or exempt from listing

DSL/NDSL (Canada) all ingredients are listed on or exempt from the DSL or NDSL

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings

| Name of substance | CAS No | Remarks | Effective date |
|---|--------|---------|----------------|
| Zinc(2+), tetraammine-, (T-4)-, carbonate (1:1) | | | 1987-01-01 |

Clean Air Act

none of the ingredients are listed

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

not listed none of the ingredients are listed

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Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

| Category | Rating | Description |
|---------------------|--------|--|
| Chronic | * | chronic (long-term) health effects may result from repeated overexposure |
| Health | 2 | temporary or minor injury may occur |
| Flammability | 1 | material that must be preheated before ignition can occur |
| Physical hazard | 0 | material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive |
| Personal protection | - | |

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

| Category | Degree of hazard | Description |
|----------------|------------------|--|
| Flammability | 1 | material that must be preheated before ignition can occur |
| Health | 2 | material that, under emergency conditions, can cause temporary incapacitation or residual injury |
| Instability | 0 | material that is normally stable, even under fire conditions |
| Special hazard | | |

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|---------------|--|
| 49 CFR US DOT | 49 CFR U.S. Department of Transportation |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| ED | Endocrine disruptor |
| ErC50 | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |
| Eye Dam. | Seriously damaging to the eye |
| Eye Irrit. | Irritant to the eye |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |

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| Abbr. | Descriptions of used abbreviations |
|----------------|---|
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| IMDG | International Maritime Dangerous Goods Code |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| LD50 | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval |
| NPCA-HMIS® III | National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition |
| OSHA | Occupational Safety and Health Administration (United States) |
| PBT | Persistent, Bioaccumulative and Toxic |
| Skin Corr. | Corrosive to skin |
| Skin Irrit. | Irritant to skin |
| Skin Sens. | Skin sensitization |
| STOT SE | Specific target organ toxicity - single exposure |
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and very Bioaccumulative |

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on the tested mixture and/or formulator knowledge.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|------|--------------------------------------|
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H335 | May cause respiratory irritation. |

Disclaimer

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.