

Material Safety Data Sheet (MSDS)

Part I Chemical Product and Company Identification

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| Popular name or trade name of chemical product | Water-borne styrene-acrylic copolymer emulsion |
| English name of chemical product | Styrene-Acrylic emulsion |
| Name of enterprise | Qingdao Highonour Chemical Tech Co., Ltd. |
| Address | No.3, East Xinchang Road, Xinhe Ecological Chemical Technology Base, Pingdu, Qingdao City, Shandong Province, China |
| Postal code | 266717 |
| E-mail address | business@highonour.com |

Part II Composition/Information on Ingredients

Pure product: Mixture:

| Composition of harmful substances | Content (%) | CAS No. |
|-----------------------------------|-------------|------------|
| Styrene and Acrylic Ester Polymer | 50%±2% | 25085-34-1 |
| Water | 50%±2% | 7732-18-5 |

Part III Hazards Summarizing

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| Hazard class | Health, fire, reaction. |
| Routes of entry | Eye contact, skin contact, inhalation, ingestion. Health hazard: Eye contact, the contact can cause irritation. |
| Skin contact | No irritation against the skin, but the long-term contact can cause dermatitis. |
| Inhalation | No inhalation generally. |
| Ingestion | Irritate mouth, throat and stomach and can cause stomach disorder or injury. |
| Flammable and explosive danger | Noninflammable |

Part IV First-aid Measures

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| Skin contact | Wash with soapy water. |
| Eye contact | Immediately lift the upper and lower eyelids to flush eyes with plenty of water for 15 minutes or more and send to hospital for treatment promptly. |
| Inhalation | No inhalation generally |
| Ingestion | Avoid inducing vomiting, if the sufferer is sober, |

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give milk or water to dilute gastric juice, pay attention to keeping warm, keep at rest and send to hospital for treatment.

Part V Fire-fighting Measures

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| Hazard property | Flash point: — — — Spontaneous ignition point: — — — Flammable upper limit and lower limit: — — — |
| Harmful combustion product | Nonflammable. |
| Fire-fighting method and fire extinguishing agent | — — — |
| Notices for fire fighting | — — — |

Part VI Accidental Release Measures

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| Emergency handling | Avoid flowing into sewer to prevent the polymer from depositing to block the sewer. Absorb the spill with substance with strong absorbability. |
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Part VII Handling and Storage

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| Notices for operation | Use at well ventilated place. |
| Notices for storage | Sealed storage at 5-40°C |

Part VIII Exposure Controls/Personal Protection

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| Maximum allowable concentration | — — — |
| Monitoring method | OSHA |
| Respiratory system protection | Avoid breathing its vapor or smoke for long time or repeatedly. If exceed the occupational exposure limits, please wear respirator approved by NIOSH. |
| Eye protection | Wear goggles. |
| Body protection | Use clothes in accordance with sanitary protection. |
| Hand protection | It is suggested to wear anti-seepage rubber gloves. |
| Other protections | Follow general precautions. Immediately replace the polluted clothes. Wash hands after work. |

Part IX Physical and Chemical Properties

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| Appearance and properties | Light blue liquid |
| Relative density (water =1) | — — — |
| Boiling point (°C) | 100 |
| Relative vapor density (air =1) | 1.0~1.15 |
| Saturated vapor pressure | — — — |

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| (mmHg) | |
| Heat of combustion (kJ/mol) | ---- |
| Critical temperature (°C) | 0 |
| Critical pressure (MPa) | ---- |
| Flash point(0°C) | ---- |
| Upper explosive limit % (V/V) | ---- |
| Ignition temperature (°C) | ---- |
| Lower explosive limit % (V/V) | ---- |
| Dissolvability | Soluble in water |
| Main applications | Water based coatings, interior wall paint, color tile paint & etc. |

| Part X | Stability and Reactivity |
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| Stability | Stable. |
| Band agents | Oxidant. |
| Hazard of polymerization | Nil. |
| Decomposition product | Can produce combustible and toxic gas during thermal decomposition |

| Part XI | Toxicological Information |
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| Toxicological information appears in this section when such data is available. | |
| <u>Acute toxicity</u> | |
| Acute oral toxicity | Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. |
| For these raw materials | LD50, Rat, > 5,000 mg/kg |
| <u>Acute dermal toxicity</u> | |
| For these raw materials | Prolonged skin contact is unlikely to result in absorption of harmful amounts. |
| | LD50, Rat, > 2000 mg/kg No deaths occurred at this concentration. |
| <u>Acute inhalation toxicity</u> | |
| For these raw materials | With good ventilation, single exposure is not expected to cause adverse effects. If material is heated or areas are poorly ventilated, vapor/mist may accumulate and cause respiratory irritation and symptoms such as headache and nausea. |
| | The LC50 has not been determined. Specific Target Organ Systemic Toxicity (Repeated Exposure)No relevant data found. |
| <u>Skin corrosion/irritation</u> | |
| <u>Serious eye damage/eye</u> | |
| | Brief contact is essentially nonirritating to skin. |
| | May cause moderate eye irritation. |

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| <u>irritation</u> | May cause slight corneal injury. |
| <u>Sensitization</u> | |
| For skin sensitization | No relevant data found. |
| For respiratory sensitization | No relevant data found. |
| <u>Specific Target Organ Systemic Toxicity (Single Exposure)</u> | Evaluation of available data suggests that this material is not an STOT-SE toxicant. |
| <u>Specific Target Organ Systemic Toxicity (Repeated Exposure)</u> | No relevant data found. |
| <u>Carcinogenicity</u> | No relevant data found. |
| <u>Teratogenicity</u> | No relevant data found. |
| <u>Reproductive toxicity</u> | No relevant data found. |
| <u>Mutagenicity</u> | |
| For these raw materials | In vitro genetic toxicity studies were negative. |
| <u>Aspiration Hazard</u> | Based on physical properties, not likely to be an aspiration hazard. |

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| Part XII | Ecological Information |
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| Ecological toxicity: | Can be harmful to aquatic organisms |
| Biodegradability: | Degradation. |
| Abiotic degradability: | Nil. |

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| Part XIII | Disposal |
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| Wastes properties | Hazardous waste <input checked="" type="checkbox"/> Industrial solid waste <input checked="" type="checkbox"/> |
| Waste disposal methods | Disposal according to national or local laws and regulations. |
| Notices for wastes | There probably is chemical residue in the empty container. Even if it has been emptied, it shall also be disposed with reference to Material Safety Data Sheet (MSDS) and the label. |

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| Part XIV | Transport Information |
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| Notices for transport | Non-dangerous goods, avoid temperature above 40°C and below 5°C. Keep away from food, acid and alkali. |
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| Part XV | Regulatory Information |
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| Domestic laws and regulations | Convention on the Safe Use of Chemicals in Workplaces, Hazardous Chemicals Management Regulations, Regulations for the Supervision and Administration of Dangerous Goods Loaded by |
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| International regulations | Ships etc. Recommendation for Safe Use of Chemicals in Workplaces, united nations Proposals on the Transport of Dangerous Chemical Goods. |
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| Part XVI | Regulatory Information |
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| Other information | Chemical Industry Publishing House publishes "Technical Complete Book on Safety of Hazardous Chemicals". |
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This information is based on a description of the product to the best of our knowledge, taking into account the safety-related needs of the product. This information should not be construed as a warranty against specific or general specifications. It is the responsibility of the user of the product to ensure that the product is suitable and satisfactory for its intended use and method of use. We are not responsible for any injury caused by the use of this information. In conclusion, our normal sales conditions still apply.