DiverterPlus

# Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Date of issue: 01/01/2018 Revision date: 06/12/2019 Printed: 07/22/2019 Version: 2.0

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

### 1.1. Product identifier

| | | |
|---|---|---|
| Product form | : | Substance |
| Trade name | : | Diverting Agent |
| Product code | : | 990 |
| Chemical name | : | Polylactide Resin |
| CAS No | : | 9051-89-2 |

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

| | | |
|---|---|---|
| Use of the substance/mixture | : | Industrial/Professional<br>Diverting Agent for multi-stage fracturing |
| Use advised against | : | None identified |

### 1.3. Details of the supplier of the safety data sheet

DiverterPlus, LLC
281 Clarkson Road, Suite 102
Ellisville, MO 63011

Tel: 833-388-7587
Fax: 636-238-2101

### 1.4. Emergency telephone number

| | | |
|---|---|---|
| Emergency number | : | CHEMTREC (800) 424-9300<br>Outside USA: +1 703-527-3887<br>24 hours |

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification**

Combustible dust

### 2.2. Label elements

**Labelling**

| | | |
|---|---|---|
| Hazard pictograms | : | None |
| Signal word | : | Warning |
| Hazard statements | : | May form combustible dust concentrations in air |
| Precautionary statements | : | None |

### 2.3. Other hazards

| | | |
|---|---|---|
| Other hazards not contributing to the classification | : | May cause lower respiratory tract irritation upon inhalation of dust. Fine dust or coarse particles may cause irritation or corneal injury due to mechanical action. |

### 2.4. Unknown acute toxicity

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

| Name | Product identifier | % |
|---|---|---|
| Polylactide Resin | (CAS No) 9051-89-2 | > 98 |

The specific chemical\ component identities and/or the exact component percentages of this material may be withheld as trade secrets.
This information is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of 29 CFR 1910.1200 (I)(1).
Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, mutagen, and reproductive toxicant, respiratory tract and skin sensitizers in addition to oral/ inhalation acute toxicant in category 1 and 2). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents.

### 3.2. Mixture

Not applicable

## 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 you feel unwell, seek medical advice.

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

First-aid measures after skin contact : Rinse with plenty of water. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Flush eyes with water for several minutes. Get immediate medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting unless directed to do so by medical personnel. Obtain emergency medical attention if symptoms occur. Do not give laxatives.

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

Symptoms/injuries after inhalation : Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause lower track respiratory irritation.

Symptoms/injuries after skin contact : Prolonged or repeated contact, may cause skin dryness.

Symptoms/injuries after eye contact : Fine dust or coarse particles may cause irritation or corneal injury due to mechanical action. Symptoms include watering, redness, and swelling.

Symptoms/injuries after ingestion : May cause gastrointestinal blockage. Do not give laxatives.

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

Treat symptomatically. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Use fire-extinguishing media appropriate for surrounding materials. Foam. Dry powder. Carbon dioxide. Water spray.

Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : The product is not flammable.

Explosion hazard : Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard.

Other hazrads : During fire, gases hazardous to health may be formed.

### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.

Protective equipment for firefighters : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Collect as much as possible in clean container for (preferably) re-use or disposal. Dust Deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: Exposure-controls/personal protection. Avoid contact with skin and eyes. Avoid contact with eyes. Do not breathe dust. Evacuate unnecessary personnel. Collect all waste in suitable and labelled containers and dispose according to local legislation.

### 6.2. Environmental precautions

Avoid release to the environment. Do not allow large quantities, as are, to spread into the environment. Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Recover mechanically the product. Wet clean or vacuum up solids. Sweep or shovel spills into appropriate container for disposal. Wash contaminated area with large amounts of water. Avoid raising powdered materials into airborne dust. Avoid dispersal of dust in the air (i.e., cleaning dust surfaces with compressed air). Non-sparking tools should be used.

### 6.4. Reference to other sections

For further information refer to section 8 : Exposure-controls/personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid raising powdered materials into airborne dust. Avoid breathing dust. Keep container closed when not in use. Minimize dust generation and accumultion. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build statics electricity charges when subjected to the friction of transfer and mixture operations. Provide adequate precautions, such as electrical grounding and bonding or inert atmospheres.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Provide adequate ventilation to minimize dust concentrations.

Storage conditions : Store in a well-ventilated place. Store in a dry place. Store at temperature not exceeding 122°F/50°C.

Incompatible materials : No additional information available

### 7.3. Specific end use(s)

No additional information available

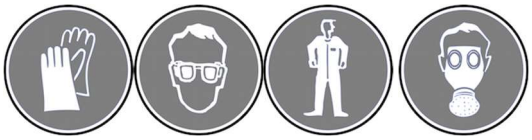
## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| **Particulates not otherwise claissified (PNOC)** | | |
|---|---|---|
| ACGIH | ACGIH TLV (TWA) (mg/m³) | 10 mg/m³ (inhalable partticulates) |
| ACGIH | ACGIH TLV (TWA) (mg/m³) | 3 mg/m³ (respirable partticulates) |
| OSHA | OSHA Final PEL (TWA) (mg/m³) | 15 mg/m³ (total dust) |
| OSHA | OSHA Final PEL (TWA) (mg/m³) | 5 mg/m³ (respirable fraction) |

### 8.2. Exposure controls

| | | |
|---|---|---|
| Appropriate engineering controls | : | Ensure good ventilation of the work station. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust dusts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area. Use only appropriately classifies electrical equipment and powered industrial trucks. |
| Personal protective equipment | : | Handle in accordance with good industrial hygiene and safety practices. Avoid all unnecessary exposure. For certain operations, additional Personal Protection Equipment (PPE) may be required.<br>Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection. |



| | | |
|---|---|---|
| Materials for protective clothing | : | Protective clothing and protective equipment materials must be suitable for the chemicals that may be contacted. |
| Hand protection | : | Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. |
| Eye protection | : | Safety glasses. Wear goggles or face mask if dust dispersed. |
| Skin and body protection | : | Wear suitable protective clothing. Wear long sleeves. |
| Respiratory protection | : | When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used. A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134). Use of high-efficiency particulate air filter (HEPA) or respirator rating N95 or higher are recommended when dust generated and adequate engineering controls are not feasible. |
| Environmental exposure controls | : | Avoid release to the environment. |

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Solid |
| Appearance | : | Powder (flour like) |
| Color | : | White |
| Odor | : | Odorless |
| Odor threshold | : | Not applicable |
| pH | : | Not applicable |
| Relative evaporation rate (butyl acetate=1) | : | Not applicable |
| Melting point | : | 302 - 356 °F (150 - 180 °C) |
| Freezing point | : | Not applicable |
| Boiling point | : | Not applicable |
| Flash point | : | No data available |
| Auto-ignition temperature | : | 730 °F (388 °C) |
| Decomposition temperature | : | 482 °F (250 °C) |
| Flammability (solid, gas) | : | No data available |
| Vapor pressure | : | Not applicable |
| Relative vapor density at 20 °C | : | Not applicable |
| Relative density | : | 1.25 (water=1) |
| Solubility | : | Negligible in water |
| Log Pow | : | No data available |
| Log Kow | : | No data available |
| Viscosity, kinematic | : | Not applicable |
| Viscosity, dynamic | : | Not applicable |

| | | |
|---|---|---|
| Explosive properties | : | No data available |
| Oxidising properties | : | Not applicable |
| Explosive limits | : | No data available |

**9.2. Other information**

No additional information available

## SECTION 10: Stability and reactivity

**10.1. Reactivity**

The product is stable and non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability**

The product is stable at normal handling and storage conditions.

**10.3. Possibility of hazardous reactions**

Hazardous polymerization will not occur.

**10.4. Conditions to avoid**

Temperatures above 446 °F (230 °C). Prolonged exposure will cause polymer degradation.

**10.5. Incompatible materials**

Oxidizing agents, Strong bases

**10.6. Hazardous decomposition products**

Thermal decomposition emits obnoxious and toxic fumes, Aldehydes, Carbon oxides.

## SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

| | | |
|---|---|---|
| Route of exposure | : | Inhalation, oral, skin, eye |
| Acute toxicity | : | Not classified |
| Skin corrosion/irritation | : | Not classified. Prolonged or repeated contact may cause dermatitis, skin irritation and skin dryness. |
| Serious eye damage/irritation | : | Not classified.<br>Product dust may be irritating to eyes. Resin particles, like other inert materials, are mechanically irritating to eyes. |
| Respiratory or skin sensitization | : | Not classified |
| Germ cell mutagenicity | : | Not classified |
| Carcinogenicity | : | Not classified |
| Reproductive toxicity | : | Not classified |
| Specific target organ toxicity (single exposure) | : | Not classified. Inhalation may cause lower respiratory tract irritation. |
| Specific target organ toxicity (repeated exposure) | : | Not classified |
| Aspiration hazard | : | May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause lower track respiratory irritation. |
| Other hazards | : | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

## SECTION 12: Ecological information

**12.1. Toxicity**

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

**12.2. Persistence and degradability**

No additional information available

**12.3. Bioaccumulative potential**

Not expected to bioaccumulate.

**12.4. Mobility in soil**

No additional information available

**12.5. Other adverse effects**

Effect on ozone layer : No additional information available

Effect on the global warming : No additional information available

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Additional information : Empty remaining contents. Do not re-use empty containers. Empty containers should be transported/delivered using a registered waste carrier to local recyclers for disposal.

Ecology - waste materials : Should not be released into the environment. Do not contaminate ponds, waterways or ditches with chemical or used container. Contact manufacturer.

## SECTION 14: Transport information

In accordance with DOT

Not regulated for transport

**ADR**

No additional information available

**Transport by sea**

No additional information available

**Air transport**

No additional information available

## SECTION 15: Regulatory information

**15.1. US Federal regulations**

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable 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.

**15.2. International regulations**

No additional information available

**15.3. US State regulations**

California Proposition 65 - NOTE: This product has NOT evaluated against the latest requirements of the California Proposition 65 to meet the safe harbor warning requirements introduced by The office of Environmental Health Hazards Assessment (OEHHA), during its OSHA hazards classification evaluation.

## SECTION 16: Other information

| | | |
|---|---|---|
| Revision date | : | 06/12/2019 |
| Indication of changes | : | 1-Identification of the substance/mixture and of the company/undertaking<br>2-Hazards identification<br>4-First aid measures<br>5-Firefighting measures<br>6-Accidental release measures<br>7-Handling and storage<br>8-Exposure controls/personal protection<br>11-Toxicological information<br>15-Regulatory information |
| Other information | : | Refer to NFPA 654, Standard for the Prevention of Fire and Dust explosions from the Manufctureing, Processing, and Handling of Combustible Particulate Solids, for safe handling.<br><br>***1)The chemical manufacturer or importer shall label chemicals that are shipped in dust form, and present a combustible dust hazard in that form when used downstream, under paragraph (f)(1);***<br>***2) the chemical manufacturer or importer shipping chemicals that are in a form that is not yet a dust must provide a label to customers under paragraph (f)(4) if, under normal conditions of use, the chemicals are processed in a downstream workplace in such a way that they present a combustible dust hazard; and***<br>***3) the employer shall follow the workplace labeling requirements under paragraph (f)(6) where combustible dust hazards are present.*** |

*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*