Safety Data Sheet

Cat. # RC-085

PVP (Polyvinylpyrrolidone)

Size: 500g
### SECTION 1: Identification

<table>
<thead>
<tr>
<th><strong>1.1. Identification</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product form</strong></td>
</tr>
<tr>
<td><strong>Substance name</strong></td>
</tr>
<tr>
<td><strong>Chemical name</strong></td>
</tr>
<tr>
<td><strong>CAS-No.</strong></td>
</tr>
<tr>
<td><strong>Product code</strong></td>
</tr>
<tr>
<td><strong>Formula</strong></td>
</tr>
</tbody>
</table>

**BIG no:** 18611

### 1.2. Recommended use and restrictions on use

No additional information available

### 1.3. Supplier

Geno Technology, Inc./ G-Biosciences
9800 Page Avenue
Saint Louis, 63132-1429 - United States
T 800-628-7730 - F 314-991-1504

### 1.4. Emergency telephone number

Emergency number: Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

**GHS-US classification**

Not classified

**GHS Label elements, including precautionary statements**

No labeling applicable

**2.3. Other hazards which do not result in classification**

No additional information available
2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/Information on ingredients
3.1. Substances
# PVP (Polyvinylpyrrolidone) Safety Data Sheet

(according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations)

<table>
<thead>
<tr>
<th>Name</th>
<th>Common Name (Synonyms)</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
</table>
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Full text of hazard classes and H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures
First-aid measures general
First-aid measures after inhalation
: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact
: Rinse with water. Soap may be used. Take victim to a doctor if irritation persists.
First-aid measures after eye contact
: Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.
First-aid measures after ingestion

4.2. Most important symptoms and effects (acute and delayed)
Potential Adverse human health effects and symptoms
: Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Non-toxic in contact with skin (LD50 skin> 5000 mg/kg). Not irritant to skin. Not irritant to respiratory organs. Slightly irritant to eyes.
Symptoms/effects after ingestion
: AFTER INGESTION OF HIGH QUANTITIES: Diarrhoea.
Chronic symptoms
: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Lung tissue affection/degeneration. Enlargement of the liver.

4.3. Immediate medical attention and special treatment, if necessary
Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media
Suitable extinguishing media
Unsuitable extinguishing media

5.2. Specific hazards arising from the chemical
Fire hazard
Explosion hazard
: DIRECT EXPLOSION HAZARD: Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.

5.3. Special protective equipment and precautions for fire-fighters
Precautionary measures fire
: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions
: Dilute toxic gases with water spray.
Protection during firefighting

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel
Protective equipment
Emergency procedures
: Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames.
Measures in case of dust release

6.1.2. For emergency responders
Protective equipment
: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection”.

03/07/2019 EN (English US) 4/8
6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Provide equipment/receptacles with earthing. Powdered form: no compressed air for pumping over spills.

Methods for cleaning up: Stop dust cloud by humidifying. Scoop solid spill into closing containers. Powdered: do not use compressed air for pumping over spills. Carefully collect the spill/leftovers. Take collected spill to manufacturer/competent authority. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Other information: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections
For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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
Storage conditions: Store in a well-ventilated place. Keep cool.
Storage temperature: 20 °C
Heat-ignition: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Information on mixed storage: KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents.
Storage area: Store in a dry area. Store in a dark area. Provide the tank with earthing. Keep only in the original container. Meet the legal requirements.
Special rules on packaging: SPECIAL REQUIREMENTS: closing. watertight. dry. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials: SUITABLE MATERIAL: synthetic material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>PVP (Polyvinylpyrolidone) (9003-39-8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls
Appropriate engineering controls: Ensure good ventilation of the work station.
Environmental exposure controls: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:
GIVE GOOD RESISTANCE: synthetic material. rubber

Hand protection:
Gloves

Eye protection:
Safety glasses. In case of dust production: protective goggles

Skin and body protection:
Protective clothing
**PVP (Polyvinylpyrolidone)**

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**Respiratory protection:**

Dust formation: dust mask

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### SECTION 9: Physical and chemical properties

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Solid. Amorphous powder.</td>
</tr>
<tr>
<td>Color</td>
<td>Off-white to light yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic odour Mild odour</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>3 - 7 (5 %)</td>
</tr>
<tr>
<td>Melting point</td>
<td>130 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 250 °C</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>0</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>&lt; 0.1 hPa (20 °C)</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.2 - 1.3</td>
</tr>
<tr>
<td>Specific gravity / density</td>
<td>1230 - 1290 kg/m³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water. Soluble in ethanol. Soluble in chloroform. Soluble in chlorinated hydrocarbons. Water: &gt; 30 g/100ml</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>420 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

- **VOC content**: 0 %
- **Other properties**: Hygroscopic. Acid reaction. May generate electrostatic charges.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

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

#### 10.2. Chemical stability

Stable under normal conditions. Hygroscopic.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Hazardous decomposition products.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

PVP (Polyvinylpyrolidone) (9003-39-8)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>100000 mg/kg (Rat, Oral)</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>&gt; 12000 mg/kg (Rat, Dermal)</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>100000 mg/kg body weight</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>pH</td>
<td>3 - 7 (5 %)</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>pH</td>
<td>3 - 7 (5 %)</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Potential Adverse human health effects and symptoms: Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Non-toxic in contact with skin (LD50 skin> 5000 mg/kg). Not irritant to skin. Not irritant to respiratory organs. Slightly irritant to eyes.

Symptoms/effects after ingestion: AFTER INGESTION OF HIGH QUANTITIES: Diarrhoea.

Chronic symptoms: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Lung tissue affection/degeneration. Enlargement/affection of the liver.

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.

Ecology - air: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).


PVP (Polyvinylpyrolidone) (9003-39-8)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>&gt; 10000 mg/l (96 h, Leuciscus idus)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

PVP (Polyvinylpyrolidone) (9003-39-8)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Not readily biodegradable in water.</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

PVP (Polyvinylpyrolidone) (9003-39-8)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>No bioaccumulation data available.</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available
SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations: Recycle/reuse. Remove to an authorized dump. Remove to an authorized incinerator with energy recovery. Precipitate/make insoluble.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT

Transport by sea
Not regulated

Air transport
Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

PVP (Polyvinylpyrrolidone) (9003-39-8)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

National regulations
No additional information available

15.3. US State regulations

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 05/11/2017

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.