

1 Identification

- **Product identifier**
- **Product Name:** Biodiesel Fuel Standard in Pyridine
- **Part Number:** BD-3514
- **Application of the substance / the mixture** Certified Reference Material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SPEX CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**
PYRIDINE
- **Hazard statements**
H225 Highly flammable liquid and vapor.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
- **Precautionary statements**
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Use explosion-proof electrical/ventilating/lighting/equipment.
Avoid breathing dust/fume/gas/mist/vapors/spray
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

US

Product Name: Biodiesel Fuel Standard in Pyridine

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

| | | |
|------------|---|----------------|
| HEALTH | 2 | Health = 2 |
| FIRE | 3 | Fire = 3 |
| REACTIVITY | 0 | Reactivity = 0 |

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

| | | |
|----------|----------|-------|
| 110-86-1 | PYRIDINE | 99.9% |
|----------|----------|-------|

- **Chemical identification of the substance/preparation**

| | | |
|------------|-----------------------|------|
| 42890-76-6 | (s)-1,2,4-Butanetriol | 0.1% |
|------------|-----------------------|------|

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Immediately call a doctor.
Do not give anything to eat or drink - Do not induce vomiting
- **Information for Doctor:**
- **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 Fire-fighting 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 with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.

(Contd. on page 3)

Product Name: Biodiesel Fuel Standard in Pyridine

(Contd. of page 2)

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

| | | |
|----------|----------|-------|
| 110-86-1 | PYRIDINE | 3 ppm |
|----------|----------|-------|

· **PAC-2:**

| | | |
|----------|----------|--------|
| 110-86-1 | PYRIDINE | 19 ppm |
|----------|----------|--------|

· **PAC-3:**

| | | |
|----------|----------|-----------|
| 110-86-1 | PYRIDINE | 3600* ppm |
|----------|----------|-----------|

7 Handling and storage

· **Handling:**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store in a cool location.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

110-86-1 PYRIDINE

PEL Long-term value: 15 mg/m³, 5 ppm

REL Long-term value: 15 mg/m³, 5 ppm

TLV Long-term value: 3.1 mg/m³, 1 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/26/2018

Reviewed on 11/26/2018

Product Name: Biodiesel Fuel Standard in Pyridine

(Contd. of page 3)

- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

| | |
|------------------|------------------------------------|
| Form: | Liquid |
| Color: | According to product specification |
| Odor: | Characteristic |
| Odour Threshold: | Not applicable. |

· pH-value: Not applicable.

· Change in condition

| | |
|------------------------------|-----------------|
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 115 °C (239 °F) |

· Flash point: < 23 °C (<73.4 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 482 °C (899.6 °F)

· Decomposition temperature: Not applicable.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

| | |
|--------|-----------------|
| Lower: | Not applicable. |
| Upper: | Not applicable. |

· Vapor pressure: Not determined.

· Density at 20 °C (68 °F) 0.98092 g/cm³ (8.18578 lbs/gal)

· Relative density Not applicable.

· Vapor density Not applicable.

· Evaporation rate Not applicable.

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not applicable.

· Viscosity:

| | |
|------------|-----------------|
| Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |

· Solvent content:

VOC content: 0.00 %

Solids content: 0.0 %

· Other information No further relevant information available.

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** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

US

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/26/2018

Reviewed on 11/26/2018

Product Name: Biodiesel Fuel Standard in Pyridine

(Contd. of page 4)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

110-86-1 PYRIDINE

| | | |
|--------|------|----------------------|
| Oral | LD50 | 891 mg/kg (rat) |
| Dermal | LD50 | 1,121 mg/kg (rabbit) |

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

| | | |
|----------|----------|---|
| 110-86-1 | PYRIDINE | 3 |
|----------|----------|---|

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **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.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (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.
- **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 sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN1282
- **UN proper shipping name**
- **DOT** Pyridine
- **ADR** 1282 Pyridine
- **IMDG, IATA** PYRIDINE

(Contd. on page 6)

US



Safety Data Sheet
acc. to OSHA HCS

Printing date 11/26/2018

Reviewed on 11/26/2018

Product Name: Biodiesel Fuel Standard in Pyridine

(Contd. of page 5)

| | |
|---|---|
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT | |
|  | |
| <ul style="list-style-type: none"> · Class · Label | <p>3 Flammable liquids 3</p> |
| <ul style="list-style-type: none"> · ADR, IMDG, IATA | |
|  | |
| <ul style="list-style-type: none"> · Class · Label | <p>3 Flammable liquids 3</p> |
| <ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA | <p>II</p> |
| <ul style="list-style-type: none"> · Environmental hazards: | <p>Not applicable.</p> |
| <ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category · Stowage Code | <p>Warning: Flammable liquids 33 F-E,S-D B SW2 Clear of living quarters.</p> |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | <p>Not applicable.</p> |
| <ul style="list-style-type: none"> · Transport/Additional information: | |
| <ul style="list-style-type: none"> · ADR · Excepted quantities (EQ) | <p>Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p> |
| <ul style="list-style-type: none"> · UN "Model Regulation": | <p>UN 1282 PYRIDINE, 3, II</p> |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

| | |
|--|---|
| <ul style="list-style-type: none"> · Section 313 (Specific toxic chemical listings): | <p>110-86-1 PYRIDINE</p> |
| <ul style="list-style-type: none"> · TSCA (Toxic Substances Control Act): | <p>110-86-1 PYRIDINE</p> |
| <ul style="list-style-type: none"> · Proposition 65 | |
| <ul style="list-style-type: none"> · Chemicals known to cause cancer: | <p>110-86-1 PYRIDINE</p> |
| <ul style="list-style-type: none"> · Chemicals known to cause reproductive toxicity for females: | <p>None of the ingredients is listed.</p> |
| <ul style="list-style-type: none"> · Chemicals known to cause reproductive toxicity for males: | <p>None of the ingredients is listed.</p> |
| <ul style="list-style-type: none"> · Chemicals known to cause developmental toxicity: | <p>None of the ingredients is listed.</p> |

(Contd. on page 7)

Product Name: Biodiesel Fuel Standard in Pyridine

(Contd. of page 6)

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).· **Hazard pictograms**

GHS02

GHS07

· **Signal word** Danger· **Hazard-determining components of labeling:**

PYRIDINE

· **Hazard statements**

- H225 Highly flammable liquid and vapor.
 H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.

· **Precautionary statements**

- If medical advice is needed, have product container or label at hand.
 Keep out of reach of children.
 Read label before use.
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Avoid breathing dust/fume/gas/mist/vapors/spray
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** product safety department· **Contact:**

SPEX CertiPrep, LLC.
 1-732-549-7144

· **Date of preparation / last revision** 11/26/2018 / -· **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)
 NFPA: National Fire Protection Association (USA)
 HMIS: Hazardous Materials Identification System (USA)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 NIOSH: National Institute for Occupational Safety
 OSHA: Occupational Safety & Health
 TLV: Threshold Limit Value
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Flam. Liq. 2: Flammable liquids – Category 2
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A