

# SAFETY DATA SHEET

SDS DATE: March 1, 2021



## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Azithromycin ELISA Kit  
**PRODUCT CODES:** Cat# E4945-100  
**RESTRICTIONS ON USE:** For laboratory research purposes. Not for drug or household use.  
**MANUFACTURER:** BioVision, Inc.  
**ADDRESS:** 155 S. Milpitas Blvd. Milpitas, CA 95035  
**EMERGENCY PHONE:** 858-373-8066  
**OTHER CALLS:** 408-493-1800  
**FAX PHONE:** 408-493-1801  
**EMAIL:** [sds@biovision.com](mailto:sds@biovision.com)

## SECTION 2: HAZARDS IDENTIFICATION

| Components                | Description                                    | Amount        | Safety Information |
|---------------------------|--|---------------|--------------------|
| Micro ELISA Plate         | --   | 8 X 12 Strips | No hazards         |
| Standard (S0 – S5)        | Liquid   | 1 ml X 6      | No hazards         |
| Enzyme Conjugate (11X)    | Liquid (contains BSA)                          | 0.7 ml        | See below          |
| Enzyme Conjugate dilution | Liquid   | 7 ml          | No hazards         |
| Substrate A               | Liquid (contains Urea hydrogen peroxide)       | 7 ml          | See below          |
| Substrate B               | Liquid (contains DMF, TMB & Glycerol)          | 7 ml          | See below          |
| Stop Solution             | Liquid (contains HCl & P-toluenesulfonic acid) | 7 ml          | See below          |
| Wash Buffer (20X)         | Liquid (contains Proclin 300)                  | 30 ml         | See below          |
| Redissolving solution     | Liquid   | 50 ml         | No hazards         |
| Plate Sealer              | --   | 3             | No hazards         |

### Bovine Serum Albumin (BSA):

#### Emergency Overview:

**GHS Classification:** Acute Toxicity; Oral, Category 4

**GHS Label elements, including precautionary statements**



#### Pictogram:

**Signal word:**

Warning

**Hazard statement(s):**

H302: Harmful if swallowed.

**Precautionary statement(s):**

P264: Wash {hands} thoroughly after handling.  
P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
P330: Rinse mouth.

**Adverse Human Health:**

Harmful if swallowed.

**Effects and Symptoms:**

Material may be irritating to the mucous membranes and upper respiratory tract.  
May be harmful by inhalation or skin absorption.  
May cause eye, skin, or respiratory system irritation.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated

#### HMIS Classification

Health hazard: 1

Flammability: 0

Physical hazards: 0

#### NFPA Rating

Health Hazard: 1

Fire: 0

Reactivity Hazard: 0

Potential Health Effects

# SAFETY DATA SHEET

SDS DATE: March 1, 2021



**Inhalation:** May be harmful by inhalation. Material may be irritating to the mucous membranes and upper respiratory tract.

**Skin:** Harmful if absorbed through skin. May cause skin irritation.

**Eyes:** Cause eye irritation.

**Ingestion:** Harmful if swallowed

## Urea hydrogen peroxide:

### Emergency Overview

**GHS Classification:** Oxidizing solids (Category 3), H272

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

### GHS Label elements, including precautionary statements



**Pictogram:**

**Signal word:**

**Hazard statement(s):**

Danger

H272 May intensify fire; oxidizer.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

**Precautionary statement(s):**

P210 Keep away from heat.

P220 Keep/ Store away from clothing/ combustible materials.

P221 Take any precaution to avoid mixing with combustibles.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ eye protection/ face protection.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

### HMIS Classification

**Health hazard:**

**Chronic health hazard:**

**Flammability:**

**Physical hazards:**

### NFPA Rating

**Health hazard:**

**Fire:**

**Reactivity hazard:**

### Potential Health Effects

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Skin:** May be harmful if absorbed through skin. Causes skin burns.

**Eyes:** Causes eye burns.

**Ingestion:** May be harmful if swallowed.

**Aggravated medical condition:** May provoke asthmatic response in persons with asthma who are sensitive to airway irritants.

## N,N-Dimethylformamide:

### Emergency Overview

**GHS Classification:** Flammable liquids (Category 3), H226

Acute toxicity, Dermal (Category 4), H312

Eye irritation (Category 2A), H319

Carcinogenicity (Category 1B), H350

Reproductive toxicity (Category 1B), H360

### GHS Label elements, including precautionary statements:



**Pictogram:**

**Signal word:**

**Hazard statement(s):**

Danger

H226 Flammable liquid and vapour.

# SAFETY DATA SHEET

SDS DATE: March 1, 2021

H312 Harmful in contact with skin.  
H319 Causes serious eye irritation.  
H350 May cause cancer.  
H360 May damage fertility or the unborn child.

**Precautionary statement(s):** P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P363 Wash contaminated clothing before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

## HMIS Classification

Health hazard: 4  
Chronic Health Hazard: \*  
Flammability: 3  
Physical hazards: 0

## NFPA Rating

Health hazard: 4  
Fire: 3  
Reactivity Hazard:

## Potential Health Effects:

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.  
**Skin:** May be fatal if absorbed through skin. May cause skin irritation.  
**Eyes:** May cause eye irritation.  
**Ingestion:** May be fatal if swallowed

## Glycerol:

### Emergency Overview

OSHA Hazards: Not available

Target Organs: Eyes, Skin

GHS Classification: Not available

GHS Label elements, including precautionary statements



Pictogram:

Signal word: Warning

Hazard statement(s): Not available

Precautionary statement(s): none

## HMIS Classification

Health hazard: 1  
Chronic Health Hazard: 0  
Flammability: 1  
Physical hazards: 0

## NFPA Rating

Health hazard: 1  
Fire: 0  
Reactivity Hazard: 0

## Potential Health Effects

**Inhalation:** Low hazard for usual industrial handling. Inhalation of a mist of this material may cause respiratory tract irritation.  
**Skin:** May cause skin irritation. Low hazard for usual industrial handling  
**Eyes:** May cause eye irritation.  
**Ingestion:** Ingestion of large amounts may cause gastrointestinal irritation. Low hazard for usual industrial handling. May cause headache.

## Hydrochloric acid (HCl):

### Emergency Overview

GHS Classification: Corrosive to metals (Category 1), H290

# SAFETY DATA SHEET

SDS DATE: March 1, 2021

Skin corrosion (Category 1A), H314

Eye irritation (Category 2A), H319

Short-term (acute) aquatic hazard (Category 3), H402

GHS Label elements, including precautionary statements

Pictogram:



Signal word:

Danger

Hazard statement(s):

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H402 Harmful to aquatic life.

Precautionary statement(s): P234 Keep only in original container.

P260 Do not breathe dust or mist.

P264 Wash skin thoroughly after handling.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

P390 Absorb spillage to prevent material damage.

P405 Store locked up.

P406 Store in corrosive resistant container with a resistant inner liner.

P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health hazard: 2

Chronic Health Hazard: \*

Flammability: 1

Physical hazards: 0

NFPA Rating

Health hazard: 1

Fire: 1

Reactivity Hazard: 0

Potential Health Effects

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** May be harmful if swallowed.

P-toluenesulfonic acid:

Emergency Overview

GHS Classification: Acute toxicity - Oral Category 4

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 2

Specific target organ toxicity (single exposure) Category 3

GHS Label elements, including precautionary statements



Pictogram:

Signal word:

Warning

Hazard statement(s):

H302 + H332 Harmful if swallowed or if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

Precautionary statement(s): P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.

HMIS Classification

Health hazard: 3

Chronic health hazard:

Flammability: 0

Physical hazards: 2

NFPA Rating

# SAFETY DATA SHEET

SDS DATE: March 1, 2021



Health hazard: 3

Fire: 0

Reactivity hazard: 2

## Potential Health Effects

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Skin:** May be harmful if absorbed through skin. Causes skin burns.

**Eyes:** Causes eye burns.

**Ingestion:** May be harmful if swallowed.

## Proclin 300:

### Emergency Overview

**GHS Classification:** Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Skin corrosion (Category 1B), H314

Serious eye damage (Category 1), H318

Skin sensitization (Category 1), H317

Short-term (acute) aquatic hazard (Category 2), H401

Long-term (chronic) aquatic hazard (Category 2), H411

### GHS Label elements, including precautionary statements



### Pictogram:

**Signal word:**

**Hazard statement(s):**

Danger

H302 + H332 Harmful if swallowed or if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects

**Precautionary statement(s):**

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water or shower.

P304 + P340 + P310 IF INHALED:

Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

P391 Collect spillage.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

## HMIS Classification

Health hazard: 3

Chronic health hazard: \*

Flammability: 1

Physical hazards: 0

## NFPA Rating

Health hazard: 3

Fire: 1

Reactivity hazard: 0

## Potential Health Effects

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Skin:** May be harmful if absorbed through skin. Causes skin burns.

**Eyes:** Causes eye burns.

**Ingestion:** May be harmful if swallowed.

**Aggravated medical condition:** May provoke asthmatic response in persons with asthma who are sensitive to airway irritants.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS Number | EC-No. | Molecular Weight | Chemical Formula | Concentration |
|-----------|------------|--------|------------------|------------------|---------------|
|-----------|------------|--------|------------------|------------------|---------------|

# SAFETY DATA SHEET

SDS DATE: March 1, 2021



|                             |            |           |        |   |       |
|-----------------------------|------------|-----------|--------|---|-------|
| Glycerol                    | 56-81-5    | 200-289-5 | 92.09  | C <sub>3</sub> H <sub>8</sub> O <sub>3</sub>                      | ≤2%   |
| BSA                         | 9048-46-8  | 232-936-2 | --     | --  | ≤0.2% |
| Urea hydrogen peroxide      | 124-43-6   | 204-701-4 | 94.07  | CO(NH <sub>2</sub> ) <sub>2</sub> · H <sub>2</sub> O <sub>2</sub> | <0.2% |
| Hydrochloric acid           | 7647-01-0  | 231-595-7 | 36.46  | HCl   | <1%   |
| P-toluenesulfonic acid      | 104-15-4   | --        | 172.20 | C <sub>7</sub> H <sub>8</sub> O <sub>3</sub> S                    | <3%   |
| N,N-Dimethylformamide (DMF) | 68-12-2    | 200-679-5 | 73.09  | C <sub>3</sub> H <sub>7</sub> NO                                  | <5%   |
| Proclin 300                 | 96118-96-6 | --        | --     | --  | ≤0.2% |

## SECTION 4: FIRST AID MEASURES

**If inhaled:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

**In case of skin contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

**In case of eye contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

**If swallowed:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. DO NOT induce vomiting unless directed to do so by medical personnel.

## SECTION 5: FIRE-FIGHTING MEASURES

### Bovine Serum Albumin (BSA):

**Suitable extinguishing media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.

**Unsuitable extinguishing media:** A solid water stream may be inefficient.

**Special protective equipment for fire fighters:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

**Further information:** No data available

### Urea hydrogen peroxide:

**Suitable extinguishing media:** Dry powder Dry sand

**Special hazards arising from the substance or mixture:** Carbon oxides, Nitrogen oxides (NOx) Combustible.

**Advice for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

### Glycerol:

**Suitable extinguishing media:** Use water spray to cool fire-exposed containers. Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

**Special hazards arising from the substance or mixture:** Thermal decomposition can lead to release of irritating gases and vapors.

**Advice for firefighters:** Wear protective eyewear, gloves, and clothing.

**Further information:** Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing

### HCl:

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special hazards arising from the substance or mixture:** Carbon oxides

**Advice for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Further information:** No data available

### P-toluenesulfonic acid:

**Suitable extinguishing media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.

**Hazardous combustion products:** Hydrogen sulfide, Carbon oxides

**Special protective equipment for fire fighters:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

**Further information:** No data available

### N,N-Dimethylformamide:

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special hazards arising from the substance or mixture:** Carbon oxides, Nitrogen oxides (NOx)

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus for fire fighting if necessary.

### Proclin 300:

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special hazards arising from the substance or mixture:** Carbon oxides, Nitrogen oxides (NOx), Sulfur oxides, Hydrogen chloride gas

**Advice for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Bovine Serum Albumin (BSA):

# SAFETY DATA SHEET

SDS DATE: March 1, 2021



**Personal precautions, protective equipment and emergency procedures:** Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

**Environmental precautions:** Take steps to avoid release into the environment, if safe to do so.

**Methods for cleaning up:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations

## Urea hydrogen peroxide:

**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up:** Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

## Glycerol, P-toluenesulfonic acid:

**Personal precautions, protective equipment and emergency procedures:** Ensure adequate ventilation. Ensure that air-handling systems are operational. Should not be released into environment. Prevent from reaching drains, sewer, or waterway.

**Methods and materials for containment and cleaning up:** Wear protective eyewear, gloves, and clothing. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Keep in suitable closed containers for disposal.

## HCl:

**Personal precautions, protective equipment and emergency procedures** Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

## N,N-Dimethylformamide:

**Personal precautions, protective equipment, emergency procedures:** Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up:** Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations (see section 13).

## Proclin 300:

**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up:** Soak up with inert absorbent material and dispose of as hazardous waste. Keep unsuitable, closed containers for disposal.

**Reference to other sections:** For disposal see section 13.

---

## SECTION 7: HANDLING AND STORAGE

---

### Bovine Serum Albumin (BSA):

**Precautions for safe handling:** Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid prolonged or repeated exposure.

**Conditions for safe storage:** Keep container tightly closed. Store in accordance with information listed on the product insert.

### Urea hydrogen peroxide:

**Handling:** Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition.

**Storage:** Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature 2 - 8 °C Store under inert gas. Air, light, and moisture sensitive. Storage class (TRGS 510): 5.1B: Oxidizing hazardous materials

### Glycerol, P-toluenesulfonic acid:

**Precautions for safe handling:** Wash thoroughly after handling. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Wash clothing before reuse.

**Conditions for safe storage, including any incompatibilities:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. No special precautions indicated

### HCl:

**Handling:** Avoid inhalation of vapour or mist.

**Storage:** Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

# SAFETY DATA SHEET

SDS DATE: March 1, 2021



## N,N-Dimethylformamide:

**Handling:** Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

**Storage:** Keep container tightly closed in a dry and well-ventilated place. Never allow product to get in contact with water during storage. Do not store near acids. Heat sensitive. Storage class (TRGS 510): 6.1B: Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials.

## Proclin 300:

**Handling:** Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. For precautions see section 2.

**Storage:** Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): 8A: Combustible, corrosive hazardous materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Bovine Serum Albumin (BSA):

#### Exposure Controls:

| CAS#      | Partial Chemical Name      | Britain EH40 | France VL | Europe       |
|-----------|----------------------------|--------------|-----------|--------------|
| 9048-46-8 | Bovine Serum Albumin (BSA) | No data      | No data   | No data      |
| CAS#      | Partial Chemical Name      | OSHA TWA     | ACGIH TWA | Other limits |
| 9048-46-8 | Bovine Serum Albumin (BSA) | No data      | No data   | No data      |

### Urea hydrogen peroxide:

#### Control parameters:

**Ingredients with workplace control parameters:** Contains no substances with occupational exposure limit values.

#### Exposure controls:

**Appropriate engineering controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday

#### Personal protective equipment

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin and Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

### Glycerol, P-toluenesulfonic acid:

#### Personal protective equipment:

##### Eye protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

##### Skin and body protection

Wear appropriate protective gloves to prevent skin exposure. Wear appropriate protective clothing to minimize contact with skin.

##### Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### HCl:

| Components | CAS-No.   | Value   | Control parameters             | Basis  |
|------------|-----------|---|--------------------------------|--|
| HCl        | 1310-73-2 | CEIL  | 2 mg/m <sup>3</sup>            | USA. ACGIH Threshold Values (TLV)  |
|            |           | C   | 2 mg/m <sup>3</sup>            | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000                    |
|            |           | TWA   | 2 mg/m <sup>3</sup>            | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|            |           | C   | 2 mg/m <sup>3</sup>            | USA. ACGIH Threshold Limit Values (TLV)  |
|            |           | Eye, skin, & Upper Respiratory Tract irritation |                                |  |
|            |           | C   | 1 ppm<br>1.4 mg/m <sup>3</sup> | USA. NIOSH Recommended Exposure Limits   |



# SAFETY DATA SHEET

SDS DATE: March 1, 2021

N,N-Dimethylformamide:

**Control parameters:**

Ingredients with workplace control parameters



| Component             | CAS. No. | Value  | Control parameters | Basis  |
|-----------------------|----------|--|--------------------|--|
| N,N-Dimethylformamide | 68-12-2  | TWA  | 5 ppm              | USA. ACGIH Threshold Limit Values (TLV)  |
|                       | Remarks  | Upper Respiratory Tract irritation<br>Eye irritation<br>Liver damage<br>2018 Adoption<br>Substances for which there is a Biological Exposure Index or Indices (see BEI® section)<br>Confirmed animal carcinogen with unknown relevance to humans<br>Danger of cutaneous absorption |                    |  |
|                       |          | TWA  | 10 ppm<br>30 mg/m3 | USA. NIOSH Recommended Exposure Limits   |
|                       |          | Potential for dermal absorption  |                    |  |
|                       |          | TWA  | 10 ppm<br>30 mg/m3 | USA. Occupational Exposure Limits (OSHA) -<br>Table Z-1 Limits for Air Contaminants        |
|                       |          | Skin designation<br>The value in mg/m3 is approximate  |                    |  |
|                       |          | PEL  | 10 ppm<br>30 mg/m3 | California permissible exposure limits for<br>chemical contaminants (Title 8, Article 107) |
|                       |          | Skin   |                    |  |

## Personal protective equipment:

### Respiratory Protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## Proclin 300:

**Control parameters:**

**Ingredients with workplace control parameters:** Contains no substances with occupational exposure limit values.

**Exposure controls:**

**Appropriate engineering controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday

**Personal protective equipment**

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin and Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

# SAFETY DATA SHEET

SDS DATE: March 1, 2021



## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| Property                   | BSA   | Urea hydrogen peroxide          | Glycerol             | Proclin 300                | N,N-Dimethylformamide       | HCl                 | P-toluenesulfonic acid |
|----------------------------|---|---------------------------------|----------------------|----------------------------|-----------------------------|---------------------|------------------------|
| Appearance                 | Off-white powder                                  | Solid                           | Clear viscous liquid | Liquid                     | colourless                  | Light yellow liquid | Solid                  |
| pH:                        | No data available                                 | No data available               | 5.5 -8               | 4.1 at 100 g/l             | 6.7                         | < 1 at 20 °C        | No data available      |
| Water Solubility:          | ~ 50 mg/ml in water, with 15 min manual stirring. | No data available               | Miscible             | No data available          | completely miscible         | soluble             | No data available      |
| Other Solubility:          | No data available                                 | No data available               | No data available    | No data available          | No data available           | No data available   | No data available      |
| Boiling Point (°C):        | No data available                                 | No data available               | 290 °C ( 554.00°F)   | 189 °C 372 °F              | 153 °C 307 °F               | > 100 °C - lit      | No data available      |
| Melting Point (°C):        | No data available                                 | 90 - 93 °C (194 - 199 °F) - lit | 17.8 °C ( 19.94°F)   | -40 °C (-40 °F)            | -61 °C (-78 °F)             | -30 °C              | No data available      |
| Flash Point (°C):          | No data available                                 | No data available               | 160 °C               | 118 °C (244 °F)-closed cap | 58 °C (136 °F) - closed cup | Not applicable      | No data available      |
| Ignition Temperature (°C): | No data available                                 | No data available               | No data available    | No data available          | No data available           | No data available   | No data available      |
| Density:                   | No data available                                 | No data available               | 3.18                 | 1.03 g/cm3                 | 0.944 g/mL                  | 1,2 g/cm3 at 25 °C  | No data available      |

## SECTION 10: STABILITY AND REACTIVITY

| Property                          | BSA   | Urea hydrogen peroxide   | Glycerol  | Proclin 300   | N,N-Dimethylformamide   | HCl   | P-toluenesulfonic acid                      |
|-----------------------------------|---|--|---|---|---|---|---|
| Reactivity                        | No data available                           |  |   |   |   |   |   |
| Chemical stability:               | Stable under recommended storage conditions |  |   |   |   |   |   |
| Conditions to avoid:              | No data available                           | No data available  | Incompatible materials, ignition sources, excess heat | No data available   | Heat, flames and sparks.                                      | No data available   | Extremes of temperature and direct sunlight |
| Materials to avoid:               | No data available                           | Alcohols, Organic materials, Heavy metals, Powdered metals, Strong reducing agents<br>Alcohols, Organic materials, Heavy metals, Powdered metals, Strong reducing agents | Not available   | No data available   | Strong oxidizing agents                                       | Bases, Amines, Alkali metals, Metals, permanganates, for example potassium permanganate, Fluorine, metal acetylides, hexalithium disilicide | Strong oxidizing agents.                    |
| Hazardous decomposition products: | No data available                           | Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)  | Carbon monoxide, carbon monoxide, carbon dioxide      | Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx), Sulfur oxides, Hydrogen chloride gas | Under fire conditions. - Carbon oxides, Nitrogen oxides (NOx) | Hydrogen chloride gas (fire condition)  | Hydrogen sulfide. Carbon oxides             |

# SAFETY DATA SHEET

SDS DATE: March 1, 2021



## SECTION 11: TOXICOLOGICAL INFORMATION

### **Bovine Serum Albumin (BSA):**

The toxicological effects of this product have not been thoroughly studied

### **Urea hydrogen peroxide:**

**Acute toxicity:** LD50 Oral - Rat - female - > 2,000 mg/kg  
(OECD Test Guideline 423)

Inhalation: Irritating to respiratory system.

Dermal: No data available

No data available

**Skin corrosion/irritation:** After long-term exposure to the chemical: Causes skin burns.

**Serious eye damage/eye irritation:** Eyes - In vitro study

Result: Irreversible effects on the eye - 4 h

(OECD Test Guideline 437)

Causes serious eye damage.

**Respiratory or skin sensitization:** No data available

**Germ cell mutagenicity:** no data available

### **Carcinogenicity:**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available

**Specific target organ toxicity – single exposure (GHS):** no data available

**Specific target organ toxicity – repeated exposure (GHS):** no data available

**Aspiration hazard:** no data available

**Synergistic effects:** no data available

**Additional information:** RTECS: Not available

### **Glycerol:**

**Acute toxicity:** LD50 Oral - rat – 12,600 mg/kg

LC50 Inhalation - rat - 570 mg/m<sup>3</sup>/1hr

Dermal – rabbit: Mild eye irritation-24 hr

**Skin corrosion/irritation:** no data available

**Serious eye damage/eye irritation:** no data available

**Respiratory/skin sensitization:** no data available

**Germ cell mutagenicity:** no data available

**Carcinogenicity:** Not listed as a carcinogen (ACGIH, IARC, NTP)

**Reproductive toxicity:** No data available

**Mutagenicity:** No data available

### **HCl:**

**Acute toxicity:** Inhalation: Cough Difficulty in breathing (Hydrochloric Acid)

LCLo Inhalation - Human - 30 min - 1.970 mg/m<sup>3</sup> (Hydrochloric Acid)

Remarks: (RTECS) Inhalation: absorption (Hydrochloric Acid)

**Skin corrosion/irritation:** Skin - reconstructed human epidermis (RhE) (Hydrochloric Acid)

Result: Corrosive (OECD Test Guideline 431)

**Serious eye damage/eye irritation:** Eyes - Bovine cornea (Hydrochloric Acid)

Result: Corrosive (OECD Test Guideline 437)

**Respiratory or skin sensitization:** Maximisation Test - Guinea pig (Hydrochloric Acid)

Result: negative (OECD Test Guideline 406)

**Germ cell mutagenicity:** Chromosome aberration test in vitro (Hydrochloric Acid) Chinese hamster ovary cells

Result: Conflicting results have been seen in different studies.

### **Carcinogenicity:**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available

**Teratogenicity:** no data available

**Specific target organ toxicity – single exposure (GHS):** May cause respiratory irritation. (Hydrochloric Acid) The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation. (Hydrochloric Acid) Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Inhalation may lead to the formation of oedemas in the respiratory tract., Possible damages:, damage of respiratory tract, tissue damage (Hydrochloric Acid)

# SAFETY DATA SHEET

SDS DATE: March 1, 2021



**Specific target organ toxicity – repeated exposure (GHS):** The substance or mixture is not classified as specific target organ toxicant, repeated exposure

**Aspiration hazard:** No aspiration toxicity classification (Hydrochloric Acid)

**Synergistic effects:** No data available

**Additional information:** RTECS: MW4025000

Inhalation of vapors may cause: burning sensation, Cough, wheezing, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema (Hydrochloric Acid)

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (Hydrochloric Acid)

After uptake of large quantities: (Hydrochloric Acid) Cyanosis, Circulatory collapse, respiratory arrest (Hydrochloric Acid) Systemic effects:

(Hydrochloric Acid) rise in blood pressure, bradycardia (Hydrochloric Acid) This substance should be handled with particular care.

(Hydrochloric Acid)

## **P-toluenesulfonic acid:**

**Acute toxicity:** No data available

**Skin corrosion/irritation:** no data available

**Serious eye damage/eye irritation:** no data available

**Respiratory or skin sensitization:** No data available

**Germ cell mutagenicity:** no data available

### **Carcinogenicity:**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available

**Specific target organ toxicity – single exposure (GHS):** no data available

**Specific target organ toxicity – repeated exposure (GHS):** no data available

**Aspiration hazard:** no data available

**Synergistic effects:** no data available

**Additional information:** RTECS: Not available

## **N,N-Dimethylformamide:**

**Acute toxicity** LD50 Oral - Rat - male and female - 3,010 mg/kg (OECD Test Guideline 401)

LC50 Inhalation - Rat - 4 h - 9 - 15 mg/l

LD50 Dermal - Rabbit - 1,500 mg/kg Remarks: (IUCLID)

**Skin corrosion/irritation:** Skin – Rabbit Result: No skin irritation Remarks: (IUCLID)

**Serious eye damage/eye irritation:** Eyes - Rabbit Result: Eye irritation Remarks: (IUCLID)

**Respiratory or skin sensitization:** Sensitisation test: - Guinea pig Result: negative Remarks: (Lit.) Sensitisation test: - Mouse Result: negative (OECD Test Guideline 406)

**Germ cell mutagenicity:** Ames test Salmonella typhimurium Result: negative (ECHA)

Mouse - male - Bone marrow Result: negative (ECHA)

### **Carcinogenicity:**

IARC: 2A - Group 2A: Probably carcinogenic to humans (N,N-Dimethylformamide)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA

**Reproductive toxicity:** No data available

**Specific target organ toxicity - single exposure:** No data available

**Specific target organ toxicity - repeated exposure:** Oral - May cause damage to organs through prolonged or repeated exposure. - Brain

**Aspiration hazard:** No data available

**Additional Information:** Repeated dose toxicity - Rat - male and female - Oral - 28 d - No observed adverse effect level - 238 mg/kg - Lowest observed adverse effect level - 475 mg/kg Subacute toxicity

RTECS: LQ2100000

## **Proclin 300:**

**Acute toxicity:** LD50 Oral - Rat - 862 mg/kg

LD50 Dermal - Rabbit - 2,800 mg/kg

No data available

**Skin corrosion/irritation:** Skin – Rabbit Result: Corrosive

**Serious eye damage/eye irritation:** Eyes – rabbit Result: Corrosive to eyes

**Respiratory or skin sensitization:** - Guinea pig Result: May cause sensitization by skin contact.

**Germ cell mutagenicity:** no data available

### **Carcinogenicity:**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

# SAFETY DATA SHEET

SDS DATE: March 1, 2021



NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.  
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available  
**Specific target organ toxicity – single exposure (GHS):** no data available  
**Specific target organ toxicity – repeated exposure (GHS):** no data available  
**Aspiration hazard:** no data available  
**Synergistic effects:** no data available  
**Additional information:** RTECS: Not available

---

## SECTION 12: ECOLOGICAL INFORMATION

---

### **Bovine Serum Albumin (BSA):**

**Toxicity:** Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.  
**Persistence and degradability:** No data available  
**Toxicity:** No data available  
**Bio accumulative potential:** No data available  
**Mobility in soil:** No data available  
**PBT and vPvB assessment:** No data available

### **Urea hydrogen peroxide:**

**Ecotoxicity:** No data available  
**Persistence and degradability:** no data available  
**Toxicity:** no data available  
**Bioaccumulative potential:** no data available  
**Mobility in soil:** no data available  
**PBT and vPvB assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted  
**Other adverse effects:** hydrogen peroxide. Discharge into the environment must be avoided.

### **Glycerol:**

**Persistence and degradability:** Easily biodegradable  
**Toxicity:** No data available  
**Bioaccumulative potential:** Not bioaccumulative  
**Mobility in soil:** Aqueous solution has high mobility in soil.  
**PBT and vPvB assessment:** no data available  
**Other adverse effects:** no data available

### **HCl:**

**Toxicity:** Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric Acid) Remarks: (IUCLID)  
**Persistence and degradability:** no data available  
**Bioaccumulative potential:** no data available  
**Mobility in soil:** no data available  
**PBT and vPvB assessment:** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### **P-toluenesulfonic acid:**

**Persistence and degradability:** no data available  
**Toxicity:** No data available  
**Bioaccumulative potential:** no data available  
**Mobility in soil:** no data available  
**PBT and vPvB assessment:** no data available  
**Other adverse effects:** no data available

### **N,N-Dimethylformamide:**

**Toxicity:** Toxicity to fish flow-through test LC50 - Lepomis macrochirus (Bluegill sunfish) - 7,100 mg/l - 96 h (US-EPA)  
Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - 13,100 mg/l - 48 h (OECD Test Guideline 202)  
Toxicity to algae static test EC50 - Desmodesmus subspicatus (green algae) - > 1,000 mg/l - 72 h (DIN 38412)  
Toxicity to bacteria static test EC50 - Vibrio fischeri - 12,300 - 17,500 mg/l - 5 min Remarks: (External MSDS)  
**Persistence and degradability:** Biodegradability aerobic - Exposure time 21 d Result: 100 % - Readily biodegradable. (OECD Test Guideline 301E) Biochemical Oxygen Demand (BOD) 900 mg/g Remarks: (Lit.), Theoretical oxygen demand 1,863 mg/g Remarks: (Lit.)  
**Bioaccumulative potential:** No data available  
**Mobility in soil:** No data available  
**PBT and vPvB assessment:** No data available  
**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

### **Proclin 300:**

**Ecotoxicity:** No data available  
**Persistence and degradability:** no data available  
**Toxicity:** no data available

# SAFETY DATA SHEET

SDS DATE: March 1, 2021

**Bioaccumulative potential:** no data available

**Mobility in soil:** no data available

**PBT and vPvB assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life with long lasting effects.



---

## SECTION 13: DISPOSAL CONSIDERATIONS

---

### **Bovine Serum Albumin (BSA):**

**Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations

### **Urea hydrogen peroxide:**

#### **Waste treatment methods**

**Product:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an after burner and scrubber.

**Contaminated packaging:** Dispose of as unused product.

### **Glycerol:**

**Product:** Dispose of in a manner consistent with federal, state, and local regulations.

**Storage:** No data available

### **HCl:**

**Product:** Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

**Contaminated packaging:** Dispose of as unused product.

### **P-toluenesulfonic acid:**

**Waste Disposal Method:** Dispose in accordance with local, state, and federal regulations

### **N,N-Dimethylformamide:**

**Product:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging:** Dispose of as unused product.

### **Proclin 300:**

#### **Waste treatment methods**

**Product:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an after burner and scrubber.

**Contaminated packaging:** Dispose of as unused product.

---

## SECTION 14: TRANSPORT INFORMATION

---

### **Bovine Serum Albumin (BSA):**

**DOT (US):** Not dangerous goods

**IMDG:** Not dangerous goods

**IATA:** Not dangerous goods

### **Urea hydrogen peroxide:**

**DOT (US):** UN number: 1511 Class: 5.1 (8) Packing group: III Proper shipping name: Urea hydrogen peroxide

Reportable Quantity (RQ): Poison Inhalation Hazard: No

**IMDG:** UN number: 1511 Class: 5.1 (8) Packing group: III EMS-No: F-A, S-Q Proper shipping name: UREA HYDROGEN PEROXIDE

**IATA:** UN number: 1511 Class: 5.1 (8) Packing group: III Proper shipping name: Urea hydrogen peroxide

### **Glycerol:**

**DOT (US):** Not dangerous goods

**IMDG:** Not dangerous goods.

**IATA:** Not dangerous goods.

### **HCl**

**DOT (US)** UN number: 1823 Class: 8 Packing group: II Proper shipping name: HCl, solid

Reportable Quantity (RQ): 1000 lbs Marine pollutant: No Poison Inhalation Hazard: No

**IMDG** UN number: 1823 Class: 8 Packing group: II EMS-No: F-A, S-B Proper shipping name: HCL, SOLID

Marine pollutant: No

**IATA** UN number: 1823 Class: 8 Packing group: II Proper shipping name: HCl, solid

### **P-toluenesulfonic acid:**

**DOT (US):** UN number: UN2585; Hazard class: 8; Packing group III; Proper shipping name: Alkyl sulfonic acids, solid;

# SAFETY DATA SHEET

SDS DATE: March 1, 2021



Description UN2585, Alkyl sulfonic acids, solid, 8, III; Emergency Response Guide Number 153

IMDG: UN number: UN2585; Hazard class: 8; Packing group III; Proper shipping name: Alkyl sulfonic acids, solid;

Description UN2585, Alkyl sulfonic acids, solid, 8, III; EmS-No F-A, S-B

IATA: UN number: UN2585; Hazard class: 8; Packing group III; Proper shipping name: Alkyl sulfonic acids, solid;

Description UN2585, Alkyl sulfonic acids, solid, 8, III; ERG Code 8L

## N,N-Dimethylformamide:

DOT (US) UN number: 1687 Class: 6.1 Packing group: II Proper shipping name: N,N-Dimethylformamide

Reportable Quantity (RQ): 1000 lbs Poison Inhalation Hazard: No

IMDG UN number: 1687 Class: 6.1 Packing group: II EMS-No: F-A, S-A Proper shipping name: N,N-

DIMETHYLFORMAMIDE

Marine pollutant : yes

IATA UN number: 1687 Class: 6.1 Packing group: II Proper shipping name: N,N-Dimethylformamide

## Proclin 300:

DOT (US ) UN number: 3265 Class: 8 Packing group: II Proper shipping name: Corrosive liquid, acidic, organic, n.o.s. (Mixture of 5-Chloro-2- methyl-4-isothiazolin-3-one and 2-Methyl-2H -isothiazol-3-one (3:1))

Reportable Quantity (RQ): Poison Inhalation Hazard: No

IMDG UN number: 3265 Class: 8 Packing group: II EMS-No: F-A, S-B Proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Mixture of 5- Chloro-2-methyl-4-isothiazolin-3-one and 2-Methyl-2H -isothiazol-3-one (3:1))

Marine pollutant : yes

IATA UN number: 3265 Class: 8 Packing group: II Proper shipping name: Corrosive liquid, acidic, organic, n.o.s. (Mixture of 5-Chloro-2- methyl-4-isothiazolin-3-one and 2-Methyl-2H -isothiazol-3-one (3:1))

## SECTION 15: REGULATORY INFORMATION

### SARA 302 Components:


### SARA 313 Components:

SARA 311/312 Hazards: Glycerol: Acute Health Hazard ; Urea hydrogen peroxide: Reactivity Hazard, Acute Health Hazard; HCl Acute Health Hazard; P-toluenesulfonic acid: Acute health hazard, Reactive hazard

Massachusetts Right To Know Components: Glycerol, CAS-No. 56-81-5; Revision Date: 2007-03-01;

Pennsylvania Right To Know Components: Glycerol, CAS-No. 56-81-5; Revision Date: 2007-03-01; ; hydrogen peroxide-urea CAS-No.124-43-6 Revision Date 1994-07-31; HCl, CAS-No. 1310-73-2; Revision Date: 2007-03-01

New Jersey Right To Know Components: Glycerol, CAS-No. 56-81-5; Revision Date: 2007-03-01; ; hydrogen peroxide-urea CAS-No.124-43-6 Revision Date 1994-07-31; HCl, CAS-No. 1310-73-2; Revision Date: 2007-03-01

California Prop. 65 Components:  WARNING: This product can expose you to chemicals including TMB & DMF, which are known to the State of California to cause cancer. For more information go to [www.p65warnings.ca.gov/](http://www.p65warnings.ca.gov/)

### EU regulations

| Component              | Risk Phrases              | Safety Phrases      |
|------------------------|---------------------------|---------------------|
| Glycerol               | R36/37/38                 | S36/37/39           |
| BSA                    | R20/21/22                 | S36/37/39           |
| Urea hydrogen peroxide | R11; R26/27/28            | S16, S36/37/39      |
| HCl                    | R52; R20/21/22            | S61, S36/37/39      |
| N,N-Dimethylformamide  | R45/46; R61; R39/26/27/28 | S16, S53, S36/37/38 |
| P-toluenesulfonic acid | R26/27/28                 | S36/37/39           |
| Proclin 300            | R23/24/25                 | S61, S36/37/39      |

## SECTION 16: OTHER INFORMATION:

### DISCLAIMER:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. BioVision, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.