

**SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION**

- 1.1 Product identifier**  
**Product Name:** BioStrip  
**Product Codes(s):** BioStrip  
**Synonyms:** Bio-based paint and coating stripper  
**REACH Registration:** No data available
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**  
**General Use:** Paint, coating and film stripper; graffiti remover  
**Uses advised against:** None known
- 1.3 Details of the supplier and of the safety data sheet**  
**Manufacturer/Distributor**  
 Liquiguard Technologies, Inc.  
 5807 N. Andrews Way  
 Fort Lauderdale, FL 33309 USA  
 +1-954-556-0996
- 1.4 Emergency telephone number:** +1-954-556-0996 (during business hours)

**SECTION 2 - HAZARDS IDENTIFICATION**

- 2.1 Classification of substance or mixture**  
**Product definition:** Mixture  
**Classification (Regulation (EC) No 1272/2008)**  
 Flammable liquid, Category 4 [H227]  
 Skin Corrosion/Irritation, Category 2 [H315]  
 Eye Damage/Irritation, Category 2A [H319]
- 2.2 Label Elements**  
**Labeling (Regulation (EC) No 1272/2008)**
- Hazard Symbols** 
- Signal Word:** Warning
- Hazard Statement(s):** H227 - Combustible liquid  
 H315 - Causes skin irritation  
 H319 - Causes serious eye irritation
- Precautionary Statements:**
- [Prevention]** P210 - Keep away from heat, sparks, open flames, and hot surfaces. - No smoking.  
 P261 - Avoid breathing mists or spray.  
 P280 - Wear protective gloves, protective clothing, and eye protection.  
 P264 - Wash hands thoroughly after handling.
- [Response]** P370 + P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide for extinction.  
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.  
 P332 + P313 - If skin irritation occurs: Get medical attention.  
 P362 - Take off contaminated clothing and wash before reuse.  
 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 attention.
- [Storage]** P403 + P235 - Store in well-ventilated place. Keep cool.
- [Disposal]** P501 - Dispose of contents in accordance with national/local regulations.

**SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS**

- 3.1 Substances**  
 Not applicable
- 3.2 Mixtures**  
**Chemical characterization (preparation)**

% by Weight	Ingredient	CAS Number	EC Number	Index Number	EC Classification
<30	Dimethyl sulfoxide	67-68-5	200-664-3	-----	-----
<5	Formic acid	64-18-6	200-579-1	607-001-00-0	Xi, R36/38

Product contains proprietary ingredients that are non-toxic. The identities of the components are available to the attending physician or paramedical personnel in case of emergency.

Proprietary ingredients are not listed as WHMIS controlled substances.

## SECTION 4 - FIRST AID MEASURES

### 4.1 Description of first aid measures

**Inhalation:** If product vapor or mist causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist, seek medical attention immediately.

**Eyes:** Immediately flush eyes with large amounts of water for 15 minutes. Remove contact lenses, if present, after the first 5 minutes and continue rinsing. Obtain immediate medical attention, preferably from an ophthalmologist.

**Skin:** Flush skin with large amounts of water while removing contaminated clothing. Wash affected area with soap and water. Wash contaminated clothing and shoes thoroughly before reuse. Seek prompt medical attention if irritation persists or rash develops.

**Ingestion:** Rinse mouth with water. Remove dentures, if any. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

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

#### Potential health symptoms and effects

**Eyes:** Causes moderate to severe eye irritation. Symptoms include redness, swelling, burning sensation and tearing.

**Skin:** May cause moderate to severe skin irritation.

**Inhalation:** Inhalation of mist or vapor may cause irritation of the respiratory system.

**Chronic:** No information available.

## SECTION 5 - FIRE FIGHTING MEASURES

### 5.1 Extinguishable media

**Suitable methods of extinction:** Use media such as water fog, water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable methods of extinction:** Using water jets or streams may spread the fire.

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

Combustible material. Closed containers may explode due to the build-up of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

### 5.3 Advice for firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat. If possible, firefighters should control run-off water to prevent environmental contamination.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

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

Wear appropriate protective clothing designated in Section 8. Remove all sources of ignition. Ventilate the area.

### 6.2 Environmental precautions

Avoid dispersal of spilled material or run-off and prevent contact with soil and entry into drains, sewers or waterways.

### 6.3 Methods and materials for containment and cleaning up

Cover drains and contain spill. Cover with a large quantity of inert absorbent. Do not use combustible material such as saw dust. Collect product using non-sparking tools and place into approved container for proper disposal. Observe possible material restrictions (Sections 7.2 and 10.5).

Clean contaminated area with soap and water.

### 6.4 Reference to other sections

For indications about waste treatment, see Section 13.

## SECTION 7 - HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Observe label precautions. Wear all appropriate protective equipment specified in Section 8. Keep containers closed when not in use.

#### Advice on protection against fire and explosion

Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

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

Keep in cool, dry, ventilated storage areas in closed containers. Transfer only to approved containers having correct labeling. Containers that have been opened should be carefully resealed and kept upright to prevent leakage. Do not take internally. Keep out of reach of children.

### 7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

## SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

CAS Number	Ingredient	OSHA PEL	ACGIH TLV	NIOSH
64-18-6	Formic Acid	5 ppm; 9 mg/m <sup>3</sup> TWA	5 ppm TWA; 10 ppm STEL	5 ppm; 9 mg/m <sup>3</sup> TWA; 30 ppm IDLH

### 8.2 Exposure controls

**Engineering Measures:** Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.

**Individual protection measures:** Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

**Hygiene measures:** Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking or using the lavatory.

**Eye/face protection:** Wear protective goggles or safety glasses with unperforated side shields during use. Refer to 29 CFR 1910.133, ANSI Z87.1 or European Standard EN 166.

**Hand Protection:** Wear gloves recommended by glove supplier for protection against materials in section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

**Other protective equipment:** Protective clothing. Protective boots, if the situation requires.

**Respiratory Protection:** Always use an approved respirator when vapor/aerosols are generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced 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).

**Environmental exposure controls:** Do not empty into drains.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	Clear, green colored liquid
<b>Odor</b>	Sweet
<b>Odor Threshold</b>	Not determined
<b>Molecular Weight</b>	Not applicable
<b>Chemical Formula</b>	Not applicable
<b>pH</b>	3.8 - 4.2 (10% aqueous solution)
<b>Freezing/Melting Point</b>	Not determined
<b>Initial Boiling Point</b>	101°C (213°F)
<b>Evaporation Rate</b>	Not determined
<b>Flammability (solid, gas)</b>	Not applicable
<b>Flash Point</b>	87.8 °C (190 °F)
<b>Autoignition Temperature</b>	Not determined
<b>Decomposition Temperature</b>	Not determined
<b>Lower Explosive Limit (LEL)</b>	Not determined
<b>Upper Explosive Limit (UEL)</b>	Not determined
<b>Vapor Pressure</b>	Not determined
<b>Vapor Density</b>	Not determined
<b>Specific Gravity</b>	1.04 - 1.06
<b>Viscosity</b>	Not determined
<b>Solubility in Water</b>	Slight
<b>Partition Coefficient: n-octanol/water</b>	Not determined
<b>Volatiles by Volume @ 70° F</b>	<40%

### 9.2 Other data

No data available

## SECTION 10 - STABILITY AND REACTIVITY

### 10.1 Reactivity

No special reactivity has been reported.  
Hazardous polymerization will not occur.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Reacts with strong oxidizing agents, strong acids, strong bases. Avoid excessive heat and sources of ignition.  
The substance decomposes on burning and may produce irritating fumes.

### 10.4 Conditions to avoid

Heat, sparks, open flames. Extreme temperatures. Contact with incompatible materials.

### 10.5 Incompatible materials

Strong oxidizing agents, strong acids, organic and inorganic acid chlorides, alkali metals

### 10.6 Hazardous decomposition products

Thermal decomposition products may include carbon oxides, sulfur oxides, formaldehyde, methyl mercaptan and dimethylsulfide. Dimethyl sulfone is produced via hydrolysis.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute Oral Toxicity

The oral toxicity of this product is expected to be low based on the oral toxicities of the components.

#### Acute inhalation toxicity

The inhalation toxicity of this product is expected to be low based on the inhalation toxicities of the components.

#### Acute dermal toxicity

No data available

**Skin irritation**

Causes skin irritation

**Eye irritation**

May cause moderate to severe eye irritation

**Sensitization**

No data available

**Genotoxicity in vitro**

No data available

**Mutagenicity**

No data available

**Specific organ toxicity - single exposure**

No data available

**Specific organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Further information**

**Chronic Effects:** The components in this product are not listed as a carcinogen by ACGIH, IARC, NTP or OSHA. No data is available regarding the mutagenicity and/or teratogenicity of this material, nor is there any available data that indicates it causes adverse developmental and/or fertility effects.

Handle in accordance with good industrial hygiene and safety practice.

## SECTION 12 - ECOLOGICAL INFORMATION

**12.1 Toxicity**

Product is expected to have low toxicity to aquatic organisms.

**12.2 Persistence and degradability**

Material is expected to be biodegradable.

**12.3 Bioaccumulation potential**

This material is not expected to bioaccumulate based on the partition coefficients of the components.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**12.6 Other adverse effects****Additional ecological information**

Do not allow material to run into surface waters, wastewater or soil.

## SECTION 13 - DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods****Product**

**Methods of disposal:** The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**Hazardous waste:** The classification of this product may meet the criteria for a hazardous waste.

**RCRA U-Series:** U132 - Formic Acid

## SECTION 14 - TRANSPORT INFORMATION

**Note:** Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

**U.S.A DOT and Canadian TGD**

**Proper Shipping Name:** Flammable Liquid, N.O.S. (dimethyl sulfoxide)  
**Hazard Class:** 3  
**UN/NA:** 1993  
**Packing Group:** III

**IMO/IMDG**

**Proper Shipping Name:** Flammable Liquid, N.O. S., (dimethyl sulfoxide)  
**Hazard Class:** 3  
**UN/NA:** 1993  
**Packing Group:** III  
**Marine Pollutant:** No  
**EMS Number:** F-E, S-E



**ICAO/IATA**

**Proper Shipping Name:** Flammable Liquid, N.O. S., (dimethyl sulfoxide)  
**Hazard Class:** 3  
**UN/NA:** 1993  
**Packing Group:** III

**RID/ADR**

**Proper Shipping Name:** Flammable Liquid, N.O. S., (dimethyl sulfoxide)  
**Hazard Class:** 3  
**UN/NA:** 1993  
**Packing Group:** III

SECTION 15 - REGULATORY INFORMATION
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**15.1 Safety, health and environmental regulations/legislation specific for substance or mixture****U. S. Federal Regulations**

**OSHA Hazard Communication Standard:** This material contains "Hazardous Chemicals" as defined by the OSHA Hazard Communication Standard (28 CFR 1910.1200).

**TSCA Status:** All components of this product are listed on the Toxic Substance Control Act (TSCA) Inventory.

**Superfund Amendments and Reauthorization Act (SARA)**

**SARA Section 311/312 Hazard Categories:** Acute Health Hazard, Fire Hazard

**SARA 313 Information:** The following components are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to Know Act of 1986: Hydrofluoric Acid (CAS #7664-39-3) and 2-Butoxyethanol (CAS #111-76-2).

**SARA 302/304 Extremely Hazardous Substance:**

No components of the product exceed the threshold (de minimis) reporting levels established by of these sections of Title III of SARA.

**SARA 302/304 Emergency Planning & Notification:**

No components of the product exceed the threshold (de minimis) reporting levels established by of these sections of Title III of SARA.

**Comprehensive Response Compensation and Liability Act (CERCLA):** This product contains the following CERCLA reportable chemicals: Formic Acid (CAS #64-18-6), RQ - 2,268 kg (5,000 lbs)

**Clean Air Act (CAA)**

This product does not contain any chemicals that are listed as Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).

This product does not contain any Class 1 Ozone depletors.

This product does not contain any Class 2 Ozone depletors.

**Clean Water Act (CWA)**

Formic Acid (CAS #64-18-6) is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**U.S. State Regulations****California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986:**

This product contains no chemical(s) known to the state of California to cause cancer or other reproductive harm.

**Other U.S. State Inventories:**

Dimethyl sulfoxide (CAS #67-68-5) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/ Air Pollutants List(s): NJ.

Formic acid (CAS #64-18-6) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/ Air Pollutants lists: CA, ID, NE, MA, MN, NJ, NY, PA, WA, WI.

**Canada****WHMIS Hazard Symbol and Classification:**

B-3 - Flammable liquids with flash points greater than 38 °C (100 °F) but inferior to 93° C (199.4 °F).

**Canadian Domestic Substances List / Non-Domestic Substances List (DS/NDSL):**

Components of this product identified by CAS number are listed on the DSL, or are otherwise in compliance with the New Substances Notification (NSN) regulations. Only ingredients classified as "hazardous" are listed in Section 3 unless otherwise indicated. Proprietary ingredients are non-hazardous and not controlled products under WHMIS. These are listed on the NDSL.

**Canadian Controlled Products Regulations (CPR):** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations, and the MSDS contains all the information required by the Controlled Products Regulations.

**Canadian Ingredient Disclosure List (IDL):** Dimethyl Sulfoxide is listed on the IDL.

**Canadian National Pollutant Release Inventory (NPRI):** None of the ingredients in this product are listed on the NPRI.

**European Economic Community****Labeling (67/548/EEC to 1999/45/EC)**

Xi - Irritant

**Risk Phrases:** R36/38 - Irritating to eyes and skin.

**Safety Phrases:** S2 - Keep out of the reach of children.

S24 - Avoid contact with skin.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

**WGK, Germany (Water danger/protection):** 1

**Chemical Inventory Lists**

Country	Inventory Name	Inventory Listing*
Canada:	Domestic Substance List (DSL).	Yes
Canada:	Non-Domestic Substance List (NDSL).	No
Europe:	Inventory of New and Existing Chemicals (EINECS)	No
United States:	Toxic Substance Control Act (TSCA)	Yes
Australia:	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand:	New Zealand Inventory of Chemicals (NZIoC)	Yes
China:	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan:	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea:	Existing Chemicals List (ECL)	Yes
Philippines:	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	No

\*"Yes" indicates that all components of this product are in compliance with the inventory requirements administered by the governing country.  
 \*"No" indicates that one or more components of this product are not on the inventory and are not exempt from listing.

**SECTION 16 - OTHER INFORMATION**

**Hazardous Material Information System (HMIS)**

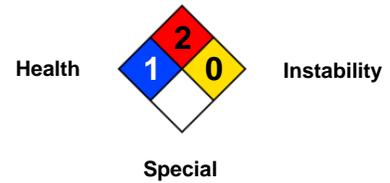
Health	2
Flammability	2
Physical Hazard	0
Personal Protection	C

**HMIS and NFPA Hazard Rating Legend**

\* = Chronic Health Hazard      2 = MODERATE  
 0 = INSIGNIFICANT                3 = HIGH  
 1 = SLIGHT                            4 = EXTREME

**National Fire Protection Association (NFPA)**

**Flammability**



**Full Text of Risk (R) – Phrases Referenced in Section 3.**

The information herein is given in good faith and is believed to be accurate and correct; however, no warranty, expressed or implied, is made. Liguiguard Technologies, Inc. assumes no responsibility for personal injury or property damage that may arise from the use of this material since the conditions of handling and use are beyond our control. It is the responsibility of the user to comply with all Federal, State and local laws and regulations regarding use of this product. Vendees or users assume all risks associated with the use of this material.

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