

---

**1. IDENTIFICATION**

---

<b>Product Name</b>	Buffer BW
<b>Recommended use of the chemical and restrictions on use</b>	
<b>Identified Uses</b>	For Research and Development Use Only
<b>Company Identification</b>	Covaris, Inc.
<b>Customer Information Number</b>	14 Gill Street, Unit H Woburn, MA 01801 (781) 932-3959
<b>Emergency Telephone Number</b>	(800) 424-9300 (for emergencies only)
<b>Chemtrec Number</b>	(800) 424-9300
<b>Issue Date</b>	September 25, 2013
<b>Supersedes Date</b>	

*Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)*

---

**2. HAZARD IDENTIFICATION**

---

**Hazard Classification**

Flammable liquids - Category 3  
Acute toxicity (oral) - Category 4  
Acute toxicity (dermal) - Category 5  
Serious eye damage/eye irritation - Category 2A  
Skin corrosion/irritation - Category 2  
Specific Target Organ Toxicity Single Exposure - Category 3  
Target Organ(s): Central Nervous System

**Label Elements**

Hazard Symbols



Signal Word: Warning

**Hazard Statements**

Flammable liquid and vapour.  
Causes serious eye irritation.  
Causes skin irritation.  
Harmful if swallowed.  
May be harmful in contact with skin.  
May cause drowsiness and dizziness.  
May cause respiratory irritation.

---

**2. HAZARD IDENTIFICATION**

---

**Precautionary Statements****Prevention**

Do not eat, drink or smoke when using this product.  
Use only in well-ventilated areas.  
Wash hands thoroughly after handling.  
Avoid breathing mists, vapor or dust.  
Keep away from heat, sparks and open flame. - No smoking.  
Use explosion-proof equipment.  
Wear protective gloves and eye/face protection.  
Take precautionary measures against static discharge.

**Response**

If skin irritation occurs, get medical advice/attention.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists, get medical advice/attention.  
If inhaled: Remove to fresh air and keep comfortable for breathing.  
If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
Take off contaminated clothing and wash before re-use.  
Rinse mouth.  
Call a poison center or doctor/physician if you feel unwell.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Storage**

Store locked up.  
Store container tightly closed in well-ventilated place.

**Disposal**

Dispose of contents/container in accordance with local regulation.

**Other Hazards**

None

**Specific Concentration Limits**

The values listed below represent the percentages of ingredients of unknown toxicity.

Acute oral toxicity	0 - 10%
Acute dermal toxicity	0 - 10%
Acute inhalation toxicity	0 - 10%
Acute aquatic toxicity	40 – 50%

---

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

---

This product is a mixture.

<b>Component</b>	<b>CAS Number</b>	<b>Concentration</b>
Isopropanol	67-63-0	40 – 50%
Guanidine Hydrochloride	50-01-1	40 – 50%

---

**4. FIRST- AID MEASURES**

---

**Description of necessary first-aid measures****Eyes**

Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

**Skin**

Wash affected area with plenty of water. Seek medical attention if symptoms persist.

**Ingestion**

Do not induce vomiting. Have victim drink 1-3 glasses of water to dilute stomach contents. Never administer anything by mouth if a victim is losing consciousness, is unconscious or is convulsing. Obtain medical attention immediately.

**Inhalation**

Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention if symptoms persist.

**Most important symptoms/effects, acute and delayed**

Aside from the information found under description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

**Indication of immediate medical attention and special treatment needed****Notes to Physicians**

Treat symptomatically.

---

**5. FIRE - FIGHTING MEASURES**

---

**Suitable (and unsuitable) Extinguishing Media**

Use foam, dry chemical or carbon dioxide. Be aware of the possibility of re-ignition. Keep containers and surroundings cool with water spray.

**Specific hazards arising from the chemical**

Vapors can travel a considerable distance to a source of ignition and flashback.

**Special Protective Actions for Fire-Fighters**

Wear full protective clothing and self-contained breathing apparatus.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**Personal precautions, protective equipment and emergency procedures**

Wear appropriate protective clothing.

**Environmental Precautions**

Prevent the material from entering drains or watercourses. Notify authorities if spill has entered watercourse or sewer or has contaminated soil or vegetation.

**Methods and materials for containment and cleaning up**

Contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal. Eliminate all sources of ignition.

---

**7. HANDLING AND STORAGE**

---

**Precautions for safe handling**

Use in well ventilated area. Use local exhaust ventilation. Avoid inhaling vapor. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use.

**Conditions for safe storage**

Store at room temperature. Store away from sources of heat or ignition. Storage area should be: cool - dry - well ventilated - out of direct sunlight - away from sources of ignition (heat, sparks, flames, pilot lights) - away from incompatible materials (see Section 10)

---

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

---

**Control parameters**

Exposure limits are listed below, if they exist.

**Isopropanol**

ACGIH: 200ppm 8h TWA, 400ppm 15-min STEL

OSHA: PEL 400ppm (980mg/m<sup>3</sup>) 8h TWA

**Appropriate engineering controls**

No specific measures necessary.

**Individual protection measures****Respiratory Protection**

Respiratory protection not normally required.

**Skin Protection**

Chemical resistant gloves

**Eye/Face Protection**

Chemical goggles or safety glasses with side shields

**Body Protection**

Normal work wear.

---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**Appearance**

<b>Physical State</b>	Liquid
<b>Color</b>	Colorless
<b>Odor</b>	Alcoholic
<b>Odor Threshold</b>	No data available
<b>pH</b>	7 - 8
<b>Specific Gravity</b>	1.06
<b>Boiling Range/Point (°C/F)</b>	No data available
<b>Melting Point (°C/F)</b>	No data available
<b>Flash Point (PMCC) (°C/F)</b>	25°C/77°F
<b>Vapor Pressure</b>	No data available
<b>Evaporation Rate (BuAc=1)</b>	No data available
<b>Solubility in Water</b>	No data available
<b>Vapor Density (Air = 1)</b>	No data available
<b>VOC (g/l)</b>	No data available
<b>Partition coefficient (n-octanol/water)</b>	No data available
<b>Viscosity</b>	No data available

---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

<b>Auto-ignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Upper explosive limit</b>	No data available
<b>Lower explosive limit</b>	No data available
<b>Flammability (solid, gas)</b>	Not applicable

---

**10. STABILITY AND REACTIVITY**

---

**Reactivity**

No known reactivity.

**Chemical Stability**

Stable under normal conditions.

**Possibility of hazardous reactions**

Hazardous polymerization will not occur.

**Conditions to Avoid**

Heat – high temperatures

**Incompatible Materials**

Strong oxidizing agents

**Hazardous Decomposition Products**

Oxides of carbon - nitrogen oxides - hydrogen chloride gas

---

**11. TOXICOLOGICAL INFORMATION**

---

**Acute Toxicity**Isopropanol:

Oral LD50 (rat) 5045 mg/kg

Dermal LD50 (rabbit) 12,800 mg/kg

Inhalation LC50 (rat) 72.6 mg/l

Guanidine hydrochloride

Oral LD50 (rat, female) 773.6 mg/kg

Dermal LD50 (rabbit) >2000 mg/kg

Inhalation LC50: (rat- female) 3.181 mg/l , (rat- male) 7.655 mg/l, (rat- male/female) 5.319 mg/l

(ECHA Note: This substance has to be classified according to CLP, EU GHS (Regulation (EC) No. 1272/2008) for Acute toxicity (Inhalation) as Category 4 based on the female LC50, route of administration: aerosol - air)

**Specific Target Organ Toxicity (STOT) – single exposure**

Isopropanol: Causes adverse central nervous system effects.

**Specific Target Organ Toxicity (STOT) – repeat exposure**

No data available to indicate product or components will cause target organ effects after repeated exposure.

**Serious Eye damage/Irritation**

Isopropanol: Causes eye irritation.

Guanidine hydrochloride: Irritating in eye irritation study (rabbits)

---

**11. TOXICOLOGICAL INFORMATION**

---

**Skin Corrosion/Irritation**

Guanidine hydrochloride: Irritating in skin irritation study (rabbits)

**Respiratory or Skin Sensitization**

No data available to indicate product or components may cause skin or respiratory sensitization.

**Carcinogenicity**

No data available to indicate product may present a carcinogenic hazard.

**Germ Cell Mutagenicity**

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Reproductive Toxicity**

No data available to indicate either product or components present at greater than 0.1% may cause reproductive toxicity or birth defects.

**Aspiration Hazard**

Not an aspiration hazard.

---

**12. ECOLOGICAL INFORMATION**

---

**Ecotoxicity**

Isopropanol

LC50 (fathead minnow) 9640 mg/l 96 hr

EC50 (daphnia magna) 13,299 mg/l 48 hr

EC50 (algae) 1000 mg/l 96 hr

**Mobility in soil**

No relevant studies identified.

**Persistence/Degradability**

No relevant studies identified.

**Bioaccumulative Potential**

No relevant studies identified.

**Other adverse effects**

No relevant studies identified.

---

**13. DISPOSAL CONSIDERATIONS**

---

**Disposal Methods**

Dispose of in accordance with all applicable local and national regulations.

---

**14. TRANSPORT INFORMATION**

---

**IATA**

**Proper Shipping Name** Flammable Liquid n.o.s. (Isopropanol)

**Hazard Class** 3

**Subsidiary class** None

**Packing Group** III

**UN-No** UN1993

---

**15. REGULATORY INFORMATION**

---

**United States TSCA Inventory**

Components of this product have not been verified for the inventory listing requirements of the US Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

**Canada DSL Inventory**

Components of this product have not been verified for inclusion on the Domestic Substance List (DSL).

**WHMIS Classification**

B2.D2B

This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

**SARA Title III Sect. 311/312 Categorization**

Immediate (Acute), Fire Hazard

---

**16. OTHER INFORMATION**

---

**NFPA Ratings**

NFPA Code for Flammability - 3

NFPA Code for Health - 2

NFPA Code for Reactivity - 0

NFPA Code for Special Hazards – None

**HMIS Ratings**

HMIS Code for Flammability - 3

HMIS Code for Health - 2

HMIS Code for Physical Hazard - 0

HMIS Code for Personal Protection - See Section 8

\*Chronic

**Legend**

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service

ECHA: European Chemicals Agency

IARC: International Agency for Research on Cancer

N/A: Denotes no applicable information found or available

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

SDS: Safety Data Sheet

STEL: Short Term Exposure Limit

TLV: Threshold Limit Value

**Information Source and References**

This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.

**Prepared By:** EnviroNet LLC.

---

**16. OTHER INFORMATION**

---

The information and recommendations presented in this SDS are based on sources believed to be accurate. Covaris assumes no liability for the accuracy or completeness of this information. It is the user's responsibility to determine the suitability of the **material** for their particular purposes. In particular, we make **NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED**, with respect to such information, and we assume no liability resulting from its use. Users should ensure that any use **or disposal** of the material is in accordance with applicable Federal, State, and local laws and regulations.

---