

## 405/406/601 Cartridges

Revision date: 2017/11/01

Version: 2017-01

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product number: 405/406 Cartridges

Recommended use: Laboratory Chemicals

Supplier: RBC Bioscience Corp.

3F, 3F.-1,2, No. 132, Ln. 235, Bao Quao Rd., Xindian Dist.,

New Taipei City 23145, Taiwan (R.O.C.)

Emergency/Phone Number: +886-2-8912-1200

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### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquids: Category 2

Acute toxicity (Oral): Category 4

Acute toxicity (inhalation): Category 4

Skin corrosion: Category 1C

Serious eye damage: Category 1

Respiration sensitization: Category 1

Specific target organ systemic: Category 3 (Central nervous system)

Toxicity-single exposure

Acute aquatic toxicity: Category 3

#### GHS Label element

Hazard pictograms:



Signal Word: Danger

#### Hazard Statements

H225 Highly Flammable liquid and vapour.

H302+H332 Harmful if swallowed. In contact with skin or if inhaled.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage

H402 Harmful to aquatic life

## Precautionary Statements

### Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking

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

### Response

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+P311 if exposed or consumed: Call a poison centre or doctor/ physician.

## Potential Health Effects:

Aggravated Medical Condition: None known.

Symptoms of Overexposure: No information available.

### Carcinogenicity

<b>IARC</b>	Group 1: Carcinogenic to humans ethanol	64-17-5
<b>ACGIH</b>	Confirmed animal carcinogen with unknown relevance to humans ethanol	64-17-5
<b>OSHA</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.	
<b>NTP</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.	

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

### Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
ethanol	64-17-5	50~80
2-Propanol	67-63-0	60~80
Guanidine Hydrochloride	50-01-1	30~50
Sodium dodecyl sulfate	151-21-3	1~5

## 4. FIRST AID MEASURES

### General advice:

Move out of dangerous area. Show this material safety data sheet to the doctor in attendance..

### If inhaled:

If unconscious place in recovery position and seek medical advice. Keep respiratory tract clear. If symptoms persist, call a physician.

### In case of skin contact:

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

### In case of eye contact:

Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes rinse immediately with plenty of water and seek medical advice. Remove contact lenses. Protect unharmed eye.

**If swallowed:**

If accidentally swallowed obtain immediate medical attention. Rinse mouth with water. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed:**

Harmful if swallowed or if inhaled. Causes serious eye damage. Causes severe burns.

**Note to Physician:**

No information available

## 5. FIRE FIGHTING MEASURE

**Suitable Extinguishing media:**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Specific hazards during firefighting:**

Don't allow run-off from firefighting to enter drains or water courses. Exposure to decomposition products may be a hazard to health.

**Hazardous combustion products:**

Carbon oxides. Sulfur oxides

**Specific extinguishing methods:**

In the event of fire and/or explosion don't breathe fumes. Use a water spray to cool fully closed containers.

**Special protective equipment for fire-fighters:**

Wear self-contained breathing apparatus for firefighting if necessary

## 6. ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust/fume/gas/mist/vapors/spray. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**Environmental precautions:**

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so.

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

Contain spillage, and then collect with non-combustible absorbent material. (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13.). Unsuitable cleaning agents sodium hypochlorite.

## 7. HANDLING AND STORAGE

**Advice on safe handling:**

Avoid formation of aerosol. Don't breathe vapors/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

**Materials to avoid:**

Don't store together with oxidizing and self-igniting products

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters/Permissible concentration	Basis
ethanol	64-17-5	TWA	1000 ppm 1900mg/m <sup>3</sup>	NIOSH REL
		TWA	1000 ppm 1900 mg/m <sup>3</sup>	OSHA Z-1
		TWA	1000 ppm 1900 mg/m <sup>3</sup>	OSHA P0
		STEL	1000 ppm	ACGIH
2-Propanol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980 mg/m <sup>3</sup>	NIOSH REL
		ST	500 ppm 1225 mg/m <sup>3</sup>	NIOSH REL
		TWA	400 ppm 980 mg/m <sup>3</sup>	OSHA Z-1
		TWA	400 ppm 980 mg/m <sup>3</sup>	OSHA P0
		STEL	500 ppm 1225 mg/m <sup>3</sup>	OSHA P0

### Biological occupational exposure limits

Component	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
2-Propanol	67-63-0	Acetone	Urine	End of shift at end of workweek	40 mg/l	ACGIH BEI

### Personal protective equipment

#### Respiratory protection:

In the case of vapor formation use a respirator with an approved filter.

#### Hand protection remarks:

The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact)

#### Material:

Protective gloves

#### Eye protection:

Tightly fitting safety goggles. Wear face-shield and protective suit for abnormal processing problems. Don't wear contact lenses. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Skin and body protection:

Choose body protection according to the amount and concentration of the dangerous substance at the work place. Acid-resistant protective clothing. Footwear protecting against chemicals. Workers should wear antistatic footwear.

## Hygiene measures:

Keep away from food and drink. Wash hands before breaks and at the end of workday. Ensure adequate ventilation, especially in confined areas. Avoid contact with the skin and the eyes. When using do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: liquid  
Color: No data available.  
Odor: No data available.  
Odor Threshold: No data available.  
pH: No data available.  
Melting point/range: No data available.  
Boiling point/range: No data available.  
Flash point: No data available.  
Evaporation rate: No data available.  
Burning rate: No data available.  
Upper explosion limit: No data available.  
Lower explosion limit: No data available.  
Vapor pressure: No data available.  
Relative vapor density: No data available.  
Relative density: No data available.  
Density: No data available.  
Solubility: No data available.  
Water solubility: No data available.  
Solubility in other solvents: No data available.  
Partition coefficient n-octanol/water: No data available.  
Auto ignition temperature: No data available.  
Thermal decomposition: No data available.  
Viscosity: No data available.  
Viscosity, dynamic: No data available.  
Viscosity, kinematic: No data available.  
Explosive properties: No data available.  
Oxidizing properties: No data available.

## 10. STABILITY AND REACTIVITY

Reactivity: No decomposition if stored and applied as directed.  
Chemical stability: No decomposition if stored and applied as directed.  
Possibility of hazardous reactions: Stable under recommended storage conditions.  
Conditions to avoid: Heat, Flames and sparks.  
Incompatible materials: No data available  
Hazardous decomposition products: No decomposition if stored and applied as directed.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Product:

Acute oral toxicity: No data available  
Acute inhalation toxicity: No data available  
Acute dermal toxicity: No data available

## Ingredients

### **Ethanol**

Acute oral toxicity: LD50 Oral (Rat): 10470 mg/kg

Acute inhalation toxicity: LC50 (Rat): 20000 ppm, Exposure time: 10 h

### **2-Propanol**

Acute oral toxicity: LD50 Oral (Rat): 5045 mg/kg

Acute inhalation toxicity: LD50 Dermal (Rabbit): 12800 mg/kg

### **Guanidine hydrochloride**

Acute oral toxicity: LD50 Oral (Rat): 1120 mg/kg

### **Sodium dodecyl sulfate:**

Acute oral toxicity: LD50 Oral (Rat): 1228 mg/kg

Acute inhalation toxicity: LC50 (Rat): 3.9 mg/l, Exposure time: 1h, Test atmosphere: dust/mist

Acute dermal toxicity: LD50 Dermal (Rabbit): 580 mg/kg

## **Skin corrosion/irritation**

### Product:

Extremely corrosive and destructive to tissue. Causes skin burns.

### Ingredients:

#### **2-Propanol:**

Species: Rabbit

Result: Mild skin irritation

#### **Sodium dodecyl sulfate:**

Species: Rabbit, Exposure time: 24h, Result: irritating to skin.

## **Serious eye damage/eye irritation**

### Product:

Remarks: May cause irreversible eye damage.

### Ingredients:

#### **Ethanol**

Result: Eye irritation

#### **2-Propanol:**

Species: Rabbit

Exposure time: 24h

Result: Eye irritation

#### **Sodium dodecyl sulfate:**

Species: Rabbit, Result: Risk of serious damage to eyes, Method: OECD Test Guideline 405.

## **Respiratory or skin sensitization**

### Product

Remarks: May cause sensitization by inhalation and skin contact.

## Germ Cell mutagenicity

No data available

## Carcinogenicity

No data available

## Reproductive toxicity

No data available

## STOT-single exposure

Ingredients:

### 2-Propanol

### Sodium dodecyl sulfate:

Routes of exposure: inhalation

Assessment: May cause respiratory irritation.

Assessment: May cause drowsiness or dizziness.

## STOT-repeated exposure

No data available

## Aspiration toxicity

No data available

## Further information

Product

Remarks:

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Concentrations substantially above the TLV values may cause narcotic effects. Solvents may degrease the skin.

## 12. Ecological Information

### Eco toxicity

Product

Toxicity to fish: No data available

Toxicity to algae: No data available

Toxicity to bacteria: No data available

Ingredients

### 2-Propanol

Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 9640 mg/l, Exposure time: 96 h

Toxicity to algae: EC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): 2000 mg/l,  
Exposure time: 72 h

### Sodium dodecyl sulfate:

Toxicity to fish: NOEC (Oncorhynchus mykiss (rainbow trout)): 19.5 mg/l, Exposure time: 96h  
LC50 (Oncorhynchus mykiss (rainbow trout)): 3.6 mg/l, Exposure time: 96h

Toxicity to algae: (Pseudokirchneriella subcapitata (green algae)): 2.68 mg/l  
Exposure time: 150h, Test Type: Growth inhibition.

## Persistence and degradability

### Ingredients:

#### **Guanidine hydrochloride**

Biodegradability: Method: OECD Test Guideline 301C

#### Remarks:

According to the results of tests of biodegradability. This product is not readily biodegradable.

## Bio accumulative potential

### Product

Bio accumulation: No data available

Partition coefficient n-octanol/water: No data available

### Ingredients

#### **Guanidine hydrochloride**

Partition coefficient n-octanol/water: log Pow: ca.-1.7 (20°C)

## Mobility in soil

No data available

## Other adverse effects

No data available

## 13. DISPOSAL CONSIDERATIONS

### **Disposal Methods**

Waste from residues:

The product should not be allowed to enter drains, water courses or the soil. Send to a licensed wastes management company. Dispose of as hazardous waste in compliance with local and national regulations. Dispose of contents/container in accordance with local regulation.

Contaminated packaging:

Dispose of as unused product. Don't re-use empty containers.

## 14. TRANSPORT INFORMATION

### **IATA-DGR**

UN/ID No.: 2924

Proper shipping name: Flammable liquid, corrosive, n.o.s.(ethanol)

Class: 3

Subsidiary risk: 8

Packing group: II

Labels: Flammable Liquids, Corrosive

### **IMDG-Code**

UN number: 2924

Proper shipping name: Flammable liquid, corrosive, n.o.s.(ethanol)

Class: 3

Subsidiary risk: 8

Packing group: II

Labels: 3(8)

EmS Code: F-E, S-C ,

Marine pollutant: no

## Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

## Domestic regulation

### 49 CFR

UN/ID/NA No.: 2924

Proper shipping name: Flammable liquid, corrosive, n.o.s.(ethanol)

Class: 3

Subsidiary risk: 8

Packing group: II

Labels: Class 3 - Flammable Liquid, Class 8 - Corrosive

ERG Code: 132

Marine pollutant: no

## Special precaution for user:

For personal protection see section 8.

## 15. REGULATORY INFORMATION

**TSCA List:** Not relevant.

**OSHA Hazards:** Toxic by ingestion, Respiratory sensitizer, Sever skin irritant. Server eye irritant.  
Server respiratory irritant.

**EPCRA-Emergency Planning and Community Right-to-Know**

**SARA 311/312 Hazards:** Fire Hazard. Acute Health Hazard

### SARA 302:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

### California Prop 65

Warning! This product contains a chemical known in the State of California to cause cancer  
Ethanol 64-17-5

Warning! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm

Ethanol 64-17-5

## 16. OTHER INFORMATION

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