

SDS DATE: May 29,2023

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Hydroxyproline Assay
PRODUCT CODES: Cat# MA-0101
RESTRICTIONS ON USE: For laboratory research purposes only. Not for drug or household use.
MANUFACTURER: AkrivisBio, Inc.
ADDRESS: 48511 Warm Springs Blvd., Suite 213, Fremont, CA 94539
EMERGENCY PHONE: 408-739-9315
OTHER CALLS:
FAX PHONE:
EMAIL: sds@akrivisbio.com

SECTION 2: HAZARDS IDENTIFICATION

Component	Description	Volume	Safety Information
Assay Buffer	Proprietary Buffer (contains Isopropanol)	10 ml	See below
Chloramine T Concentrate	Liquid (contains Chloramine T)	600 µl	See below
Acid/Isopropanol Solution	Liquid (contains Sulfuric acid & Isopropanol)	5 ml	See below
DMAB Concentrate (in DMSO)	In DMSO	5 ml	See below
Hydroxyproline Standard (1 mg/ml)	Liquid	100 µl	No hazards
Microplate Sealing Film	--	1 film	No hazards

Isopropanol:

Emergency Overview

OSHA Hazards: Flammable liquid, Target organ effect, Irritant

Target Organs: Nerves, Kidney, Cardiovascularsystem, Gastrointestinal tract, Liver

GHS Classification: Flammable liquids (Category 2)

Skin irritation (Category 3)

Eye irritation (Category 2A)

Specific target organ toxicity – single exposure (Category 3)

GHS Label elements, including precautionary statements

Pictogram:



Signal word:

Danger

Hazard statement(s):

H225 Highly flammable liquid and vapour.
H316 Causes mild skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statement(s):

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard: 2

Chronic hazard: *

Flammability: 3

Physical hazards: 0

NFPA Rating

Health Hazard: 2

Fire: 3

Reactivity Hazard: 0

Potential Health Effects

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness or dizziness.

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

Eyes: Causes severe eye burns.

Ingestion: May be harmful if swallowed.

Chloramine T:

Emergency Overview

OSHA Hazards: Target organ effect, Harmful by ingestion, Respiratory sensitizer, Corrosive

Target Organs: Blood, Lungs

GHS Classification: Acute toxicity, Oral (Category 4)

Skin corrosion (Category 1B)

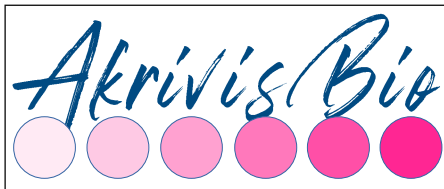
Serious eye damage (Category 1)

Respiratory sensitization (Category 1)

GHS Label elements, including precautionary statements

Pictogram:





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Signal word: Danger

Hazard statement(s): H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statement(s): P260 Do not breathe dust or mist.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P285 In case of inadequate ventilation wear respiratory protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P363 Wash contaminated clothing before reuse.

HMIS Classification

Health hazard: 3

Chronic 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.

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

Eyes: Causes eye burns.

Ingestion: Harmful if swallowed.

Sulfuric acid:

Emergency Overview

OSHA Hazards: Target organ effect, Corrosive

Target Organs: Teeth, Lungs

GHS Classification: Corrosive to metals

Skin corrosion (Category 1A)

Serious eye damage (Category 1)

Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram:



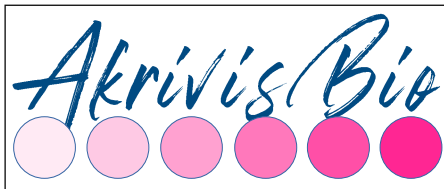
Signal word: Danger

Hazard statement(s): H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.

Precautionary statement(s): P234 Keep only in original container.
P264 Wash skin thoroughly after handling.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P390 Absorb spillage to prevent material damage.
P406 Store in corrosive resistant stainless steel container with a resistant inner liner.

HMIS Classification

Health hazard: 3



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Chronic health hazard: *

Flammability: 0

Physical hazards: 2

NFPA Rating

Health hazard: 3

Fire: 0

Reactivity hazard: 0

Special hazard: W

Potential Health Effects

Inhalation: May be harmful 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

DMSO:

Emergency Overview

OSHA Hazards: Combustible Liquid, Target Organ Effect

Target Organs: Eyes, Skin

GHS Classification: Flammable liquids (Category 4)

GHS Label elements, including precautionary statements

Pictogram: none

Signal word: Warning

Hazard statement(s): H227 Combustible liquid

Precautionary statement(s): none

HMS Classification

Health hazard: 0

Chronic Health Hazard: *

Flammability: 2

Physical hazards: 0

NFPA Rating

Health hazard: 0

Fire: 2

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.

Aggravated Medical Condition: Avoid contact w/DMSO solutions containing toxic materials or materials with unknown toxicological properties. DMSO is readily absorbed through skin and may carry such materials into the body.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	EC-No.	Molecular Weight	Chemical Formula	Concentration
Isopropanol	67-63-0	200-661-7	60.10	C ₃ H ₈ O	<50%
Chloramine T	7080-50-4	204-854-7	281.69	C ₇ H ₇ ClNNaO ₂ S · 3H ₂ O	≤10%
Sulfuric acid	7664-93-9	231-639-5	98.08	H ₂ O ₄ S	<20%
DMSO	67-68-5	200-664-3	78.13	C ₂ H ₆ OS	<90%

SECTION 4: FIRST AID MEASURES

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed: DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5: FIRE-FIGHTING MEASURES

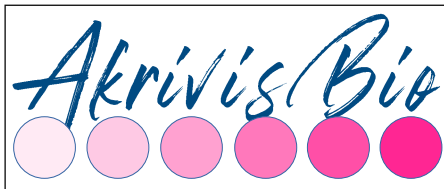
Isopropanol:

Conditions of flammability: Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

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

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products: Hazardous decomposition products formed under fire conditions – carbon oxides.



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Further information: Use water spray to cool unopened containers.

DMSO:

Suitable extinguishing media: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products: Hazardous combustion products formed under fire conditions – no data available.

Further information: Use water spray to cool unopened containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment. Avoid breathing vapors, mist, gas, or dust. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors 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 for cleaning up: 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.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition (no smoking). Take measures to prevent the buildup of electrostatic charge.

Conditions for safe 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.

Recommended storage temperature: +4 °C.

Moisture sensitive.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Isopropanol:

Components	CAS-No.	Value	Control parameters	Basis
2-propanol	67-63-0	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks:	Eye & upper respiratory tract irritation. Central nervous system impairment. Not classifiable as a human carcinogen.			
		STEL	400 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Eye & upper respiratory tract irritation. Central nervous system impairment. Not classifiable as a human carcinogen.			
		TWA	400 ppm 980 mg/m ³	USA. Occupational Exposure Limits (OSHA): Table Z-1 Limits for Air Contaminants - 1910.1000
		STEL	500 ppm 1,225 mg/m ³	USA. Occupational Exposure Limits (OSHA): Table Z-1 Limits for Air Contaminants - 1910.1000
		TWA	400 ppm 980 mg/m ³	USA. Occupational Exposure Limits (OSHA): Table Z-1 Limits for Air Contaminants
The value in mg/ m ³ is approximate.				
		TWA	400 ppm 980 mg/m ³	USA. NIOSH Recommended Exposure Limits
		ST	500 ppm 1,225 mg/m ³	USA. NIOSH Recommended Exposure Limits

DMSO:

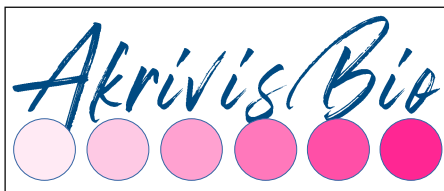
Components	CAS-No.	Value	Control parameters	Basis
Dimethyl sulfoxide	67-68-5	TWA	250 ppm	USA. Workplace Environmental Exposure Levels (WEEL)

Sulfuric acid:

Components	CAS-No.	Value	Control parameters	Basis
Sulfuric acid	7664-93-9	TWA	0.2 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		TWA	1 mg/m ³	USA. OSHA – Table Z-1 Limits for Air Contaminants – 1910.1000
		TWA	1 mg/m ³	USA. Occupational Exposure Limits (OSHA) – Table Z-1: Limits for Air Contaminants

Chloramine T:

Contains no substances with occupational exposure limit values.



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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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

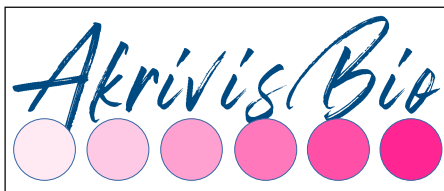
Property	Isopropanol	Chloramine T
Appearance:	Liquid	Off-white powder
pH:	No data available	8-10 at 50 g/l at 20 °C (68 °F)
Water Solubility:	Completely soluble	Soluble
Other Solubility:	No data available	No data available
Boiling Point (°C)	82 °C (180 °F)	No data available
Melting Point (°C)	-89.5 °C (-129.1 °F)	167-170 °C (333-338 °F)
Flash Point (°C)	12 °C (53.6 °F) – closed cup	192 °C (378 °F) – closed cup
Ignition Temp. (°C)	425 °C (797 °F)	No data available
Density:	0.785 g/cm ³ at 25 °C (77 °F)	No data available

Property	Sulfuric acid	DMSO
Appearance:	Liquid	Clear liquid
pH:	1.2 at 5 g/l	No data available
Water Solubility:	Soluble	Completely miscible
Other Solubility:	290 °C (554 °F)	No data available
Boiling Point (°C)	3 °C (37 °F)	189 °C (372 °F)
Melting Point (°C)	No data available	16-19 °C (61-66 °F)
Flash Point (°C)	No data available	87 °C (189 °F) – closed cup
Ignition Temp. (°C)	1.84 g/cm ³	301 °C (574 °F)
Density:	Sulfuric acid	1.1 g/ml

SECTION 10: STABILITY AND REACTIVITY

Property	Isopropanol	Chloramine T
Chemical Stability:	Stable under recommended storage conditions	
Conditions to Avoid:	Heat, flames, sparks, extremes of temperature and direct sunlight	No data available
Materials to Avoid:	Oxidizing agents, acid anhydrides, aluminum, halogenated compounds, acids	Do not store near acids, strong oxidizing agents, ammonia
Hazardous decomposition products:	Carbon oxides	Carbon oxides, nitrogen oxides, sulfur oxides, hydrogen chloride gas, sodium oxides

Property	Sulfuric Acid	DMSO
Chemical Stability:	Stable under recommended storage conditions	
Conditions to Avoid:	No data available	Heat, flames, sparks
Materials to Avoid:	Bases, halides, organic materials, carbides, fulminates, nitrates, picrates, cyanides, chlorates, alkali halides, zinc salts, permanganates, hydrogen peroxide, azides, perchlorates, nitromethane, phosphorus. Reacts violently with: cyclopentadiene, cyclopentanone	Acid chlorides, phosphorus halides, strong acids, strong oxidizing agents, strong reducing agents



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	oxime, nitroaryl amines, hexalithium disilicide, phosphorus (III) oxides, powdered metals	
Hazardous decomposition products:	Sodium oxides	Carbon oxides, sulfur oxides

SECTION 11: TOXICOLOGICAL INFORMATION

Isopropanol:

Acute toxicity: LD50 Oral – rat – 5,045 mg/kg → Remarks: Behavioral: altered sleep time (including change in righting reflex). Behavioral: somnolence (general depressed activity).

LC50 Inhalation – rat – 8 h – 16,000 ppm

LD50 Dermal – rabbit – 12,800 mg/kg

Skin corrosion/irritation: Skin – rabbit- mild skin irritation.

Serious eye damage/eye irritation: Eyes – rabbit – eye irritation – 24 h.

Respiratory or skin sensitization: May cause sensitization by skin contact.

Germ cell mutagenicity: no data available

Carcinogenicity: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP or EPA classification.

IARC: 3 –Group 3: Not classifiable as to its carcinogenicity to humans (2-propanol).

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 drowsiness or dizziness.

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

Aspiration hazard: no data available

Potential Health Effects

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness or dizziness.

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

Eyes: Causes severe eye burns.

Ingestion: May be harmful if swallowed.

Signs and Symptoms of Exposure: Central nervous system depression. Prolonged or repeated exposure can cause: nausea, headache, vomiting, narcosis, drowsiness. Overexposure may cause mild, reversible liver effects.

Additional information: RTECS: NT8050000

Chloramine T:

Acute toxicity: no data available

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory or skin sensitization: May cause allergic respiratory reaction.

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

Teratogenicity: no data available

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

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

Potential Health Effects

Inhalation: May be harmful 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.

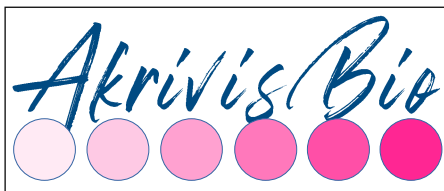
Ingestion: Harmful if swallowed.

Signs and Symptoms of Exposure: Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. Cough, shortness of breath, headache, nausea, vomiting. Repeated exposure may cause asthma.

Additional information: RTECS: not available

Sulfuric acid:

Acute toxicity: LD50 Oral – rat – 2,140 mg/kg



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LC50 Inhalation – rat – 2 h – 510 mg/m³

Skin corrosion/irritation: Skin – rabbit – extremely corrosive and destructive to tissue

Serious eye damage/eye irritation: Eyes – rabbit – severe eye irritation

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

Carcinogenicity: The International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong-inorganic-acid mists containing sulfuric acid is carcinogenic to rats (Group 1).

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

Aspiration hazard: no data available

Potential Health Effects

Inhalation: May be harmful 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. Causes severe eye burns.

Ingestion: May be harmful if swallowed.

Signs and Symptoms of Exposure: Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting, pulmonary edema. Effects may be delayed. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects: no data available

Additional information: RTECS: WS5600000

DMSO:

Acute toxicity: LD50 Oral - rat - 14,500 mg/kg

LC50 Inhalation - rat - 4 h - 40250 ppm

LD50 Dermal - rabbit - > 5,000 mg/kg

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

Respiratory/skin sensitization: no data available

Germ cell mutagenicity: Genotoxicity in vitro - mouse – lymphocyte → Cytogenetic analysis

Genotoxicity in vitro - mouse – lymphocyte → Mutation in mammalian somatic cells.

Genotoxicity in vivo - rat – Intraperitoneal → Cytogenetic analysis

Genotoxicity in vivo - mouse – Intraperitoneal → DNA damage

Carcinogenicity: Carcinogenicity – rat – Oral → Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin & Appendages: Other: Tumors.

Carcinogenicity – mouse – Oral → Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia Skin & Appendages: Other: Tumors.

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: Reproductive toxicity – rat – Intraperitoneal → Effects on Fertility: Abortion.

Reproductive toxicity – rat – Intraperitoneal → Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Reproductive toxicity – rat – Subcutaneous → Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Fertility: Litter size (e.g., # fetuses per litter; measured before birth).

Reproductive toxicity – mouse – Oral → Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Teratogenicity: Developmental Toxicity – mouse – Intraperitoneal → Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Signs and Symptoms of Exposure: Exposure via ingestion may cause nausea, fatigue, headache.

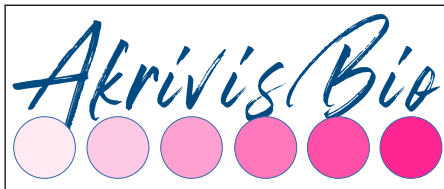
Additional Information: RTECS: PV6210000

SECTION 12: ECOLOGICAL INFORMATION

Isopropanol:

Persistence and degradability: no data available

Toxicity: Toxicity to fish: LC50 – Pimephales promelas (fathead minnow) – 9,640 mg/l – 96 h



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Toxicity to daphnia and other aquatic invertebrates: EC50 – Daphnia magna (water flea) – 5,102 mg/l – 24 h

Immobilization EC50 – Daphnia magna (water flea) – 6,851 mg/l – 24 h

Toxicity to algae: EC50 – Desmodesmus subspicatus (green algae) – >2,000 mg/l – 72 h

EC50 – algae – >1,000 mg/l – 24 h

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

DMSO:

Persistence and degradability: no data available

Toxicity: Toxicity to fish: LC50 – Pimephales promelas (fathead minnow) – 34,000 mg/l – 96 h

LC50 – Oncorhynchus mykiss (rainbow trout) – 35,000 mg/l – 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 – Daphnia pulex (Water flea) – 27,500 mg/l

Toxicity to algae: EC50 – Lepomis macrochirus (Bluegill) – >400,000 mg/l – 96 h

Bioaccumulative potential: no data available

Mobility in soil: no data available

PBT and vPvB assessment: no data available

Other adverse effects: no data available

SECTION 13: DISPOSAL CONSIDERATIONS

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

Isopropanol:

DOT (US): UN-Number: 1219, Class: 3, Packing group: II; Proper shipping name: Isopropanol; Marine pollutant: No; Poison Inhalation Hazard: No

IMDG: UN-Number: 1219, Class: 3, Packing group: II; EMS-No: F-E, S-D; Proper shipping name: ISOPROPANOL; Marine pollutant: No

IATA: UN-Number: 1219, Class: 3, Packing group: II; Proper shipping name: Isopropanol

Chloramine T:

DOT (US): UN-Number: 3263, Class: 8, Packing group: III; Proper shipping name: Corrosive solid, basic, organic, n.o.s. (Chloramine T trihydrate); Marine pollutant: No; Poison Inhalation Hazard: No

IMDG: UN-Number: 3263, Class: 8, Packing group: III; EMS-No: F-A, S-B; Proper shipping name: CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (Chloramine T trihydrate); Marine pollutant: No

IATA: UN-Number: 3263, Class: 8, Packing group: III; Proper shipping name: Corrosive solid, basic, organic, n.o.s. (Chloramine T trihydrate)

Sulfuric acid:

DOT (US): UN-number: 1830, Class: 8, Packing group: II; Proper shipping name: Sulfuric acid; Reportable Quantity (RQ): 1000 lbs.; Marine pollutant: No; Poison inhalation hazard: No

IMDG: UN-number: 1830, Class: 8, Packing group: II; EMS-No: F-A, S-B; Proper shipping name: SULFURIC ACID; Marine pollutant: No

IATA: UN-number: 1830, Class: 8, Packing group: II; Proper shipping name: Sulfuric acid

DMSO:

DOT (US): UN-Number: 1993, Class: CBL, Packing group: III; Proper shipping name: Combustible liquid, n.o.s. (Dimethyl sulfoxide); Marine pollutant: No; Poison Inhalation Hazard: No

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

SECTION 15: REGULATORY INFORMATION

SARA 302 Components: Sulfuric acid, CAS-No. 7664-93-9; Revision Date: 2007-07-01

SARA 313 Components: The following components are subject to reporting levels established by SARA Title III, Section 313:

2-propanol, CAS-No. 67-63-0; Revision Date: 1987-01-01

Sulfuric acid, CAS-No. 7664-93-9; Revision Date: 2007-07-01

SARA 311/312 Hazards: 2-Propanol: Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Chloramine T: Acute Health Hazard, Chronic Health Hazard

Sulfuric acid: Acute Health Hazard, Chronic Health Hazard

DMSO: Fire Hazard, Chronic Health Hazard

Massachusetts Right To Know Components: 2-propanol, CAS-No. 67-63-0; Revision Date: 1987-01-01

Sulfuric acid, CAS-No. 7664-93-9; Revision Date: 2007-07-01

Pennsylvania Right To Know Components: 2-propanol, CAS-No. 67-63-0; Revision Date: 1987-01-01

Chloramine T, CAS-No. 7080-50-4

Sulfuric acid, CAS-No. 7664-93-9; Revision Date: 2007-07-01

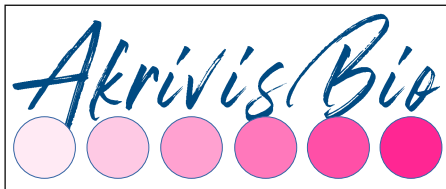
Dimethyl sulfoxide CAS-No. 67-68-5; Revision Date: 2007-03-01

New Jersey Right To Know Components: 2-propanol, CAS-No. 67-63-0; Revision Date: 1987-01-01

Chloramine T, CAS-No. 7080-50-4

Sulfuric acid, CAS-No. 7664-93-9; Revision Date: 2007-07-01

Dimethyl sulfoxide CAS-No. 67-68-5; Revision Date: 2007-03-01



SDS DATE: May 29,2023

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

EU regulations:

Component	Risk Phrases	Safety Phrases
Isopropanol	R11, R36, R67	S7, S16, S24/25, S26
Chloramine T	R22, R31, R34, R42	S7, S22, S26, S36/37/39, S45
Sulfuric acid	R35	S26, S30, S45
DMSO	R10, R36/37/38	S24/25, S36/37/39, S45

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. AkrivisBio, 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.