SDS DATE: May 29, 2023

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Calcium Assay**
PRODUCT CODES: **Cat# MA-0104**
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 4M AMPS)	15 ml	See below
Chromogenic Reagent	contains 1M HCl	25 ml	See below
Calcium Standard	liquid	100 ul	No hazards

2-Amino-2-methyl propanol:

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:

Signal word: danger
Hazard statement(s): H315 Causes skin irritation.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects
Precautionary statement(s): P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
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.
P310 Immediately call a POISON CENTER or doctor/ physician.
P321 Specific treatment (see supplemental first aid instructions on this label).
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P501 Dispose of contents/ container to an approved waste disposal plant

HMIS Classification
Health hazard: 3
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0
NFPA Rating
Health hazard: 3
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.

Hydrochloric acid:

Emergency Overview
OSHA Hazards: Corrosive to metals (category 1)
GHS Classification: Skin corrosion (Category 2)
Serious eye damage (Category 1)
GHS Label elements, including precautionary statements
Pictogram:

Signal word: Danger
Hazard statement(s): May be corrosive to metals
Causes skin irritation
Causes serious eye damage

Precautionary statement(s): Keep only in original container
Wear eye/face protection
Wear protective gloves
Wash face, hands and any exposed skin thoroughly after handling
IF ON SKIN: Wash with plenty of soap and water Take off contaminated clothing and wash before reuse 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 Immediately call a POISON CENTER or doctor/physician

HMIS Classification
- **Health hazard**: 3
- **Flammability**: 0
- **Physical hazards**: 1

NFPA Rating
- **Health Hazard:** 3
- **Fire**: 0
- **Reactivity Hazard**: 1

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 severe eye burns.
- **Ingestion:** May be harmful if swallowed.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	EC-No.	Molecular Weight	Chemical Formula
2-amino-2-methyl propanol	124-68-5	204-709-8	89.14	C4H11NO
Hydrochloric Acid	7647-01-0	231-595-7	36.5	HCl

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

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.
Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.
Hazardous combustion products: Hazardous decomposition products formed under fire conditions – see section 10.
Further information: Use water spray to cool unopened containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.
Evacuate personnel to safe 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: Sweep up and shovel. 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). Do not flush with water.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
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: 20 °C.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Hydrochloric acid

Components	CAS-No.	Value	Control parameters	Basis
Hydrochloric acid	7647-01-0	CEIL	2 ppm	USA. ACGIH Threshold Values (TLV)

		Ceiling	5ppm 7 mg/m^3	USA. OSHA – PEL
		IDLH Ceiling Ceiling	50 ppm 5 ppm 7 mg/m^3	USA. NIOSH IDLH for Air Contaminants
		C	2 mg/m^3	USA. ACGIH Threshold Limit Values (TLV)
Remarks:	Eye, skin, & upper respiratory tract irritation.			
		C	2 mg/m^3	USA. NIOSH Recommended Exposure Limits

2-Amino-2methyl-propanol:
Contains no substances with occupational exposure limit values.

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

Tightly fitting safety goggles. Face shield (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. Wash hands before breaks and at the end of workday.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	HCl	2-amino-2-methyl propanol
Appearance:	Clear liquid	semi-solid to liquid
pH	<1	11-12
Water Solubility:	Completely miscible	Soluble
Other Solubility:	No data available	No data available
Boiling Point (°C):	No data available	No data available
Melting Point (°C):	No data available	No data available
Flash Point (°C):	No data available	No data available
Ignition Temp. (°C):	No data available	No data available
Density:	1.1 g/ml	No data available

SECTION 10: STABILITY AND REACTIVITY

Property	HCl	2-amino-2-methyl propanol
Chemical Stability:	Stable under recommended storage conditions	
Conditions to Avoid:	direct sunlight, extreme temperature	No data available
Materials to Avoid:	metals. cyanides. Strong bases	Oxidizing agents, Strong acids, Copper, Brass, Aluminum
Hazardous decomposition products:	Hydrogen chloride. Thermal decomposition generates : Corrosive vapours.	carbon oxides, nitrogen oxides

SECTION 11: TOXICOLOGICAL INFORMATION

Hydrochloric acid:
Acute toxicity: LD50 -oral-rat 700 mg/kg
LD50-dermal-rabbit 5010 mg/kg
Skin corrosion/irritation: Causes severe skin burns and eye damage. pH: 0
Serious eye damage/eye irritation: Causes serious eye damage.pH: 0
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 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 carcinogen or potential 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 severe eye burns.
Ingestion: May be harmful if swallowed.
Signs and Symptoms of Exposure: Exposure may cause a burning sensation, cough, wheezing, laryngitis, shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema. Material is extremely destructive tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
Synergistic Effects: no data available
Additional information:

2-amino-2-methyl-propanol:
Acute toxicity: LD50 Oral – rat – 2,900 mg/kg
LC50 Inhalation no data available
LD50 Dermal – rabbit – >2,000 mg/kg
Skin corrosion/irritation: Skin – rabbit
Serious eye damage/eye irritation: Eyes – rabbit – corrosive to eyes
Respiratory or skin sensitization: guinea pig - no sensitization
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
Aspiration hazard: no data available
Synergistic Effects: no data available
Additional information: RTECS: not available

SECTION 12: ECOLOGICAL INFORMATION

Hydrochloric acid:
Persistence and degradability: no data available
Toxicity: LC50 fishes 282 mg/l (96 h; Gambusia affinis; PURE SUBSTANCE)
862 mg/l (Leuciscus idus; PURE SUBSTANCE)
EC50 Daphnia < 56 mg/l (72 h; Daphnia magna; PURE SUBSTANCE)
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.
Harmful to aquatic life.

2-amino-2-methyl propanol:
persistence and degradability: no data available
toxicity: Toxicity to fish: LC50 - Lepomis macrochirus (Bluegill) - 190 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Water flea) - 65 mg/l - 24 h
Toxicity to algae: EC50 - Scenedesmus capricornutum (fresh water algae) - ca.
520 mg/l - 72 h
Further information on ecology: no data available
Bioaccumulative potential: Chlorella fusca vacuolata - 1 d - 50 µg/l
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.
Harmful to aquatic life.

SECTION 13: DISPOSAL CONSIDERATIONS

Product: Observe all federal, state, and local environmental regulations.
Contaminated packaging: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

Hydrochloric acid:
DOT (US): UN-Number: 1789 Class: 8 Packing group: II
Proper shipping name: Hydrochloric acid
Reportable Quantity (RQ): 20408 lbs.
Marine pollutant: No;
Poison Inhalation Hazard: No

IMDG: UN-Number: 1789 Class: 8 Packing group: II EMS-No: F-A, S-B
Proper shipping name: HYDROCHLORIC ACID
Marine pollutant: No

IATA: UN-Number: 1789 Class: 8 Packing group: II
Proper shipping name: Hydrochloric acid

2-amino-2-methyl-propanol:
DOT: Not dangerous goods
IMDG: Not dangerous goods.
IATA: Not dangerous goods.

SECTION 15: REGULATORY INFORMATION

OSHA Hazards: Hydrochloric acid: Corrosive
SARA 302 Components: SARA 302: No chemical in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components: SARA 313The following components are subject to reporting levels established by SARA Title III, Section 313: Hydrochloric acid CAS-No.7647-01-0 Revision Date 1993-04-24
SARA 311/312 Hazards: Hydrochloric acid, 2-amino-2-methylpropanol: Acute Health Hazard
Massachusetts Right To Know Components: Hydrochloric acid CAS-No.7647-01-0 Revision Date 1993-04-24
2-Amino-2-methylpropanol CAS-No. 124-68-5 Revision Date 1993-04-24
Pennsylvania Right To Know Components: Hydrochloric acid CAS-No.7647-01-0 Revision Date 1993-04-24
2-Amino-2-methylpropanol CAS-No. 124-68-5 Revision Date 1993-04-24
New Jersey Right To Know Components: Hydrochloric acid CAS-No.7647-01-0 Revision Date 1993-04-24
2-Amino-2-methylpropanol CAS-No. 124-68-5 Revision Date 1993-04-24
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
Hydrochloric acid	R34, R20	S26, S45
2-amino-2-methyl-propanol	R36/38, R52/53	S26,S28A,S37/39,S45

SECTION 16: OTHER INFORMATION:

OTHER INFORMATION:
PREPARATION 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.