

# SAFETY DATA SHEET

Cat# K650-100, Acetoacetate Colorimetric Assay Kit

SDS DATE: September 24, 2020

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Acetoacetate Colorimetric Assay Kit  
**PRODUCT CODES:** Cat# K650-100  
**RESTRICTIONS ON USE:** For laboratory research purposes. Not for drug or household use.  
**MANUFACTURER:** BioVision, Inc.  
**DIVISION:**  
**ADDRESS:** 155 South Milpitas Blvd., Milpitas, CA 95035  
**EMERGENCY PHONE:** 858-373-8066  
**CHEMTREC PHONE:**  
**OTHER CALLS:** 408-493-1800  
**FAX PHONE:** 408-493-1801

## SECTION 2: HAZARDS IDENTIFICATION

Component	Description	Volume	Safety Information
Acetoacetate Assay Buffer	Proprietary Buffer (Contains Tween-20)	15 ml	See below
Acetoacetate Standard	Lyophilized (Contains Acetoacetate)	1 vial	See below
Acetoacetate Substrate	Liquid (contains Sodium Nitroferricyanide)	1 ml	See below

### Acetoacetate:

#### Emergency Overview

**OSHA Hazards:** Irritant

**GHS Classification:**

Skin irritation (Category 2)  
Eye irritation (Category 2A)  
Specific target organ toxicity – single exposure (Category 3)

**GHS Label elements, including precautionary statements**

**Pictogram:**



**Signal word:** Warning

**Hazard statement(s):**

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

**Precautionary statement(s):** P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.

P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P304+P340 IF INHALED: 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.  
P312 Call a POISON CENTER or doctor/physician if you feel unwell.  
P333+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.

**HMIS Classification**

**Health hazard:** 2

**Flammability:** 0

**Physical hazards:** 0

**NFPA Rating**

**Health Hazard:** 2

**Fire:** 0

**Reactivity Hazard:** 0

**Potential Health Effects**

**Inhalation:** May be harmful if inhaled. Causes respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** May be harmful if swallowed.

### sodium nitroferricyanide:

#### Emergency Overview

**OSHA Hazards:** Target organ effect, Toxic by ingestion

**Target Organs:** Blood

**GHS Classification:** Acute toxicity, Oral (Category 3)

**GHS Label elements, including precautionary statements**

**Pictogram:**



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**Signal word:** Danger  
**Hazard statement(s):** H301 Toxic if swallowed.  
**Precautionary statement(s):** P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P330 Rinse mouth.

## HMIS Classification

**Health hazard:** 2  
**Chronic health hazard:** \*  
**Flammability:** 0  
**Physical hazards:** 0

## NFPA Rating

**Health Hazard:** 0  
**Fire:** 0  
**Reactivity Hazard:** 0  
**Special Hazard:** W

## Potential Health Effects

**I 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:** Toxic if swallowed.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	EC-No.	Molecular Weight	Chemical Formula	Concentration
Tween-20	9005-64-5	500-018-3	1228	C <sub>58</sub> H <sub>114</sub> O <sub>26</sub>	<1%
Acetoacetate	3483-11-2	--	108.02	C <sub>4</sub> H <sub>5</sub> LiO <sub>3</sub>	100%
sodium nitroferricyanide	13755-38-9 T	238-373-9	297.95	C <sub>5</sub> FeN <sub>6</sub> Na <sub>2</sub> O · 2H <sub>2</sub> O	<10%

## 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:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## SECTION 5: FIRE-FIGHTING MEASURES

**Condition of flammability:** Not flammable or combustible.

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

**Special protective equipment for fire fighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Hazardous combustion products:** Hazardous decomposition products formed under fire conditions— see section 10.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods for cleaning up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

## 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. Normal measure for preventive fire protection

### Conditions for safe storage

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

Recommended storage temperature: -20 °C.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Component	CAS-No.	Value	Control parameters	Basis
Sodium nitroferricyanide(III) dihydrate	13755-38-9	TWA	5 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	Remarks	CAS number varies with compound		

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		Skin designation		
		C	5 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation; Headache; Nausea; Thyroid effects; Danger of cutaneous absorption varies		
		TWA	1 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		Upper Respiratory Tract irritation; Skin irritation varies		
		C	4.7 ppm 5 mg/m3	USA. NIOSH Recommended Exposure Limits
		10 minute ceiling value		
		TWA	1 mg/m3	USA. NIOSH Recommended Exposure Limits

## 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	Acetoacetate	sodium nitroferricyanide
Appearance:	White powder	Solid
pH:	No data available	No data available
Water Solubility:	No data available	No data available
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 Temperature (°C):	No data available	No data available
Density:	No data available	1.720 g/cm <sup>3</sup>

## SECTION 10: STABILITY AND REACTIVITY

Property	Acetoacetate	sodium nitroferricyanide
Chemical stability:	Stable under recommended storage conditions	
Conditions to avoid:	No data available	Exposure to moisture
Materials to avoid:	Strong oxidizing agents, strong acids	Strong oxidizing agents
Hazardous decomposition products:	Carbon oxides, lithium oxides	Carbon oxides, nitrogen oxides, sodium oxides, iron oxides

## SECTION 11: TOXICOLOGICAL INFORMATION

### Acetoacetate:

Acute toxicity: no data available

Skin corrosion/irritation: no data available

Serious eye damage/eye irritation: no data available

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 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.

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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):** Inhalation – may cause respiratory irritation.

**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.

**Skin:** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes:** Causes eye irritation.

**Ingestion:** May be harmful if swallowed.

**Signs and Symptoms of Exposure:** 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: not available

## sodium nitroferricyanide:

**Acute toxicity:** LD50 Oral – rat – 99 mg/kg

**Skin corrosion/irritation:** no data available

**Serious eye damage/eye irritation:** no data available

**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 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. May cause respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** Toxic if swallowed.

**Signs and Symptoms of Exposure:** Exposure may cause cyanosis. 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: LJ8925000

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## SECTION 12: ECOLOGICAL INFORMATION

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**Persistence and degradability:** no data available

**Toxicity:** no data available

**Bioaccumulative potential:** no data available

**Mobility in soil:** no data available

**PBT and vPvB assessment:** no data available

**Other adverse effects:** no data available

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## SECTION 13: DISPOSAL CONSIDERATIONS

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**Product:** Observe all federal, state, and local environmental regulations.

**Contaminated packaging:** Dispose of as unused product.

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## SECTION 14: TRANSPORT INFORMATION

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### Acetoacetate:

**DOT (US):** Not dangerous goods.

**IMDG:** Not dangerous goods.

**IATA:** Not dangerous goods.

### sodium nitroferricyanide:

**DOT (US):** UN-number: 3288                      Class: 6.1                      Packing group: III

Proper shipping name: Toxic solid, inorganic, n.o.s.

Marine pollutant: No

Poison inhalation hazard: No

**IMDG:** UN-number: 3288                      Class: 6.1                      Packing group: III                      EMS-No: F-A, S-A

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Proper shipping name: TOXIC SOLID, INORGANIC, N.O.S.

Marine pollutant: No

IATA: UN-number: 3288

Class: 6.1

Packing group: III

Proper shipping name: Toxic solid, inorganic, n.o.s.

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## SECTION 15: REGULATORY INFORMATION

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**OSHA Hazards:** Acetoacetate: Irritant

Proprietary Substrate: Target organ effect, Toxic by ingestion

**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:** Sodium nitroferricyanide(III) dihydrate: CAS-No.13755-38-9 Revision Date 2012-07-01

**SARA 311/312 Hazards:** Acetoacetate: Acute Health Hazard

Proprietary Substrate: Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components:** No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components:** Acetoacetate, CAS-No. 3483-11-2

Sodium nitroferricyanide(III) dihydrate: CAS-No.13755-38-9 Revision Date 2012-07-01

**New Jersey Right To Know Components:** Acetoacetate, CAS-No. 3483-11-2

Sodium nitroferricyanide(III) dihydrate: CAS-No.13755-38-9 Revision Date 2012-07-01

**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
Acetoacetate	R36/37/38	S26, S36
sodium nitroferricyanide	R25	S45

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## SECTION 16: OTHER INFORMATION

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**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. BioVision, 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.