

Blood or Plasma with ACD, Alsever's Solution, Sodium Citrate, Sodium EDTA, Potassium EDTA, Sodium Heparin, Lithium Heparin or Potassium Oxalate anticoagulant.

Safety Data Sheet According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Revision Date: 12/28/17

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Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Blood or Plasma with ACD, Alsever's Solution, Sodium Citrate, Sodium EDTA, Potassium EDTA, Sodium Heparin, Lithium Heparin or Potassium Oxalate anti-coagulant.

1.2. Intended Use of the Product

Use of the substance/mixture: For reasearch use only.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Aviva Systems Biology Corporation

7700 Ronson Road, Suite 100

San Diego, CA 92111, USA

1.4. Emergency Telephone Number

Emergency Number 911

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture GHS-US classification

Not classified

2.2. Label Elements GHS-US

Labeling

No labeling applicable

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. This product contains whole blood, use proper procedures when handling biohazardous materials, handle material as potentially infectious. Organic substances such as blood, when dried and dispersed in sufficient quantities in the air, may form combustible dusts. If dried and allowed to accumulate, may form combustible dust concentrations in air that could ignite and cause an explosion. Take appropriate precautions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

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3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Whole Blood	(CAS No) N/A	96.4	Not classified
Glucose	(CAS No) 50-99-7	1	Comb. Dust
Trisodium citrate dihydrate	(CAS No) 6132-04-3	0.8	Comb. Dust
Sodium chloride	(CAS No) 7647-14-5	0.8	Not classified
Sodium fluoride	(CAS No) 7681-49-4	0.25	Acute Tox. 3 (Oral), H301 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Aquatic Acute 3, H402
Ethanedioic acid, diammonium salt	(CAS No) 1113-38-8	0.24	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312
Ethanedioic acid, dipotassium salt	(CAS No) 583-52-8	0.16	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312
Glycine, N,N'-1,2-ethanediylbis[N-(carboxymethyl)-, trisodium salt, hydrate	(CAS No) 85715-60-2	0.15	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
Ethylenediaminetetraacetic acid, tripotassium salt	(CAS No) 17572-97-3	0.15	Acute Tox. 4 (Inhalation:dust,mist), H332
Heparin, lithium salt	(CAS No) 9045-22-1	0.03	Not classified
Heparin, sodium salt	(CAS No) 9041-08-1	0.02	Not classified

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Prolonged exposure may cause skin irritation.

Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: None known.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

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SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire. Water spray, dry chemical, foam, carbon dioxide (CO₂).

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture Fire

Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive. Contains substances that are combustible dusts. If dried and allowed to accumulate, may form combustible dust concentrations in air that could ignite and cause an explosion. Take appropriate precautions.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions closed containers may rupture or explode.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Remove containers from fire area if this can be done without risk. Do not breathe fumes from fires or vapors from decomposition.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid prolonged contact with eyes, skin and clothing. Avoid breathing (vapor, mist, spray).

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. **Methods**

for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material.

Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Precautions for Safe Handling: Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapors, mist, spray.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

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7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool and well-ventilated place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. **Incompatible Products:** Strong acids, strong bases, strong oxidizers. **7.3. Specific End Use(s)** For research use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Sodium fluoride (7681-49-4)		
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	2.5 mg/m ³ (as F)
USA IDLH	US IDLH (mg/m ³)	250 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	2.5 mg/m ³ (as F)

8.2. Exposure Controls

Appropriate Engineering Controls

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Gloves. Protective clothing. Protective goggles.



Materials for Protective Clothing

: Chemically resistant materials and fabrics.

Hand Protection

: Wear protective gloves.

Eye Protection

: Chemical safety goggles.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State

: Liquid

Appearance

: No data available

Odor

: No data available

Odor Threshold

: No data available

pH

: No data available

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Evaporation Rate	: No data available
Melting Point	: No data available
Freezing Point	: No data available
Boiling Point	: No data available
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density	: No data available
Solubility	: No data available
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. **Reactivity:** Hazardous reactions will not occur under normal conditions.

10.2. **Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).

10.3. **Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

10.4. **Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, and incompatible materials.

10.5. **Incompatible Materials:** Strong acids, strong bases, strong oxidizers.

10.6. **Hazardous Decomposition Products:** Thermal decomposition generates : Carbon oxides (CO, CO₂). Organic compounds. Sodium oxides. Oxides of magnesium. Metal oxides. Nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects Acute

Toxicity: Not classified

Glucose (50-99-7)	
LD50 Oral Rat	25800 mg/kg

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Sodium chloride (7647-14-5)	
LD50 Oral Rat	3 g/kg
LC50 Inhalation Rat	> 42 g/m ³ (Exposure time: 1 h)

Ethylenediaminetetraacetic acid, tripotassium salt (17572-97-3)	
ATE (Dust/Mist)	1.50 mg/l/4h

Ethanedioic acid, diammonium salt (1113-38-8)	
ATE (Oral)	500.00 mg/kg body weight
ATE (Dermal)	1,100.00 mg/kg body weight

Ethanedioic acid, dipotassium salt (583-52-8)	
ATE (Oral)	500.00 mg/kg body weight
ATE (Dermal)	1,100.00 mg/kg body weight

Sodium fluoride (7681-49-4)	
LD50 Oral Rat	148.5 mg/kg
LD50 Dermal Rat	> 2000 mg/kg

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified **Carcinogenicity:**

Not classified

Sodium fluoride (7681-49-4)	
IARC group	3

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

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Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Prolonged exposure may cause skin irritation.

Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects. **Chronic**

Symptoms: None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General

: Not classified.

Sodium chloride (7647-14-5)	
LC50 Fish 1	5560 (5560 - 6080) mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flowthrough])
EC50 Daphnia 1	1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	12946 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	340.7 (340.7 - 469.2) mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Sodium fluoride (7681-49-4)	
LC50 Fish 1	> 530 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
EC50 Daphnia 1	338 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	830 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [semi-static])
EC50 Daphnia 2	98 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and Degradability

Blood or Plasma with ACD, Alsever's Solution, Sodium Citrate, Sodium EDTA, Potassium EDTA, Sodium Heparin, Lithium Heparin or Potassium Oxalate anti-coagulant.	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Blood or Plasma with ACD, Alsever's Solution, Sodium Citrate, Sodium EDTA, Potassium EDTA, Sodium Heparin, Lithium Heparin or Potassium Oxalate anti-coagulant.	
Bioaccumulative Potential	Not established.
Sodium chloride (7647-14-5)	
BCF fish 1	(no bioaccumulation)

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Other Information

: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

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Additional Information: Container may remain hazardous when empty. Continue to observe all precautions. **Ecology**

– **Waste Materials:** Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

- 14.1. In Accordance with DOT** Not regulated for transport
- 14.2. In Accordance with IMDG** Not regulated for transport
- 14.3. In Accordance with IATA** Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

Glucose (50-99-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Sodium chloride (7647-14-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Ethylenediaminetetraacetic acid, tripotassium salt (17572-97-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Heparin, sodium salt (9041-08-1)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Heparin, lithium salt (9045-22-1)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Ethanedioic acid, diammonium salt (1113-38-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Ethanedioic acid, dipotassium salt (583-52-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Sodium fluoride (7681-49-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2 US State Regulations

Ethanedioic acid, diammonium salt (1113-38-8)
U.S. - New Jersey - Right to Know Hazardous Substance List
Sodium fluoride (7681-49-4)

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U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 12/22/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS

Full Text	Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
	Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
	Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
	Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
	Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
	Comb. Dust	Combustible Dust
	Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
	Skin Irrit. 2	Skin corrosion/irritation Category 2
	STOT SE 3	Specific target organ toxicity (single exposure) Category 3
	Comb. Dust	May form combustible dust concentrations in air
	H301	Toxic if swallowed
	H302	Harmful if swallowed
	H312	Harmful in contact with skin
	H315	Causes skin irritation
	H319	Causes serious eye irritation
	H332	Harmful if inhaled

Phrases:

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H335	May cause respiratory irritation
H402	Harmful to aquatic life

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)