

ThermoFisher

SCIENTIFIC

Material Safety Data Sheet

Creation Date 07-Dec-2009

Revision Date 07-Dec-2009

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name AST (GOT) Reagent

Cat No. TR17515, TR17503, UV17510025-BP, UV17510050-BP, BU1751-25LBP, S37042, E37047, E37041

Synonyms No information available.

Recommended Use In vitro diagnostic

Company Fisher Diagnostics
A Division of Fisher Scientific Company, LLC
A Part of Thermo Fisher Scientific, Inc.
8365 Valley Pike
Middletown, VA 22645-1905
Tel: (800) 528-0494

Emergency Telephone Number
Chemtrec US: (800) 424-9300
Chemtrec EU: (202) 483-7616

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview

Harmful if swallowed. May cause eye, skin, and respiratory tract irritation. The toxicological properties have not been fully investigated.

Appearance White

Physical State Powder

Odor odorless

Target Organs Liver, Kidney

Potential Health Effects

Acute Effects

Principle Routes of Exposure

Eyes

Skin

Inhalation

Ingestion

May cause irritation

May cause irritation. May be harmful in contact with skin.

May cause irritation of respiratory tract. May be harmful if inhaled.

Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects Tumorigenic effects have been reported in experimental animals.. May cause adverse liver effects. May cause adverse kidney effects.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Haz/Non-haz

Component	CAS-No	Weight %
Tris (hydroxymethyl) aminomethane	77-86-1	> 5%
Tris-hydrochloride	1185-53-1	> 10%
L-Aspartic acid, monopotassium salt	1115-63-5	> 50%
Ethylenediaminetetraacetic acid, disodium salt dihydrate	6381-92-6	< 5%
Sodium azide	26628-22-8	< 0.2%
Pentanedioic acid, 2-oxo-, disodium salt	305-72-6	< 5%
Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 1,4-dihydro-1-.beta.-D-ribofuranosyl-3-pyridinecarboxamide, disodium salt	606-68-8	< 1%
Dehydrogenase, D-lactate	9028-36-8	< 1%
Dehydrogenase, malate	9001-64-3	< 1%

4. FIRST AID MEASURES

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Get medical attention immediately if symptoms occur.

Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately.

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point Not applicable
Method No information available.

Autoignition Temperature No information available.

Explosion Limits

Upper No data available
Lower No data available

Suitable Extinguishing Media Substance is nonflammable; use agent most appropriate to extinguish surrounding fire..

Unsuitable Extinguishing Media No information available.

Hazardous Combustion Products No information available.
Sensitivity to mechanical impact No information available.
Sensitivity to static discharge No information available.

Specific Hazards Arising from the Chemical
 Thermal decomposition can lead to release of irritating gases and vapors.

Protective Equipment and Precautions for Firefighters
 As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

NFPA **Health** 2 **Flammability** 0 **Instability** 0 **Physical hazards** N/A

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing.

Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Do not flush down the drain. Sodium azide may react with plumbing systems to form highly explosive compounds.

7. HANDLING AND STORAGE

Handling Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothing. Do not flush down the drain. Sodium azide may react with plumbing systems to form highly explosive compounds.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at temperatures between 2° and 8 °C.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium azide	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	Skin (Vacated) Ceiling: 0.1 ppm (Vacated) Ceiling: 0.3 mg/m ³	Ceiling: 0.3 mg/m ³ Ceiling: 0.1 ppm

Component	Quebec	Mexico OEL (TWA)	Ontario TWA EV
Sodium azide	Ceiling: 0.3 mg/m ³ Ceiling: 0.11 ppm		CEV: 0.1 ppm CEV: 0.26 mg/m ³

NIOSH IDLH: Immediately Dangerous to Life or Health

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Powder
Appearance	White
Odor	odorless
Odor Threshold	No information available.
pH	7.9 - 8.1 @ 20°C
Vapor Pressure	No information available.
Vapor Density	No information available.
Viscosity	No information available.
Boiling Point/Range	Not applicable
Melting Point/Range	No information available.
Decomposition temperature °C	No information available.
Flash Point	Not applicable
Evaporation Rate	No information available.
Specific Gravity	No information available.
Solubility	Soluble in water
log Pow	No data available

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products. Excess heat.
Incompatible Materials	Oxidizing agents, lead, copper
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂), Nitrogen oxides (NO _x), Oxides of phosphorus
Hazardous Polymerization	Hazardous polymerization does not occur
Hazardous Reactions .	Do not flush down the drain. Sodium azide may react with plumbing systems to form highly explosive compounds.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information No acute toxicity information is available for this product

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tris (hydroxymethyl) aminomethane	5900 mg/kg (Rat)	Not listed	Not listed
Sodium azide	27 mg/kg (Rat)	20 mg/kg (Rabbit) 50 mg/kg (Rat)	Not listed

Irritation No information available.

Toxicologically Synergistic Products No information available.

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects Mutagenic effects have occurred in experimental animals.

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

Other Adverse Effects Tumorigenic effects have been reported in experimental animals.. See actual entry in RTECS for complete information.

Endocrine Disruptor Information No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Do not empty into drains.

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available

Mobility No information available

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

14. TRANSPORT INFORMATION

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Tris (hydroxymethyl) aminomethane	X	X	-	201-064-4	-		X	X	X	X	KE-01403 X
Tris-hydrochloride	X	X	-	214-684-5	-		X	-	X	X	KE-34819 X
L-Aspartic acid, monopotassium salt	X	X	-	214-226-4	-		X	X	X	X	KE-29124 X
Ethylenediaminetetraacetic acid, disodium salt dihydrate	-	X	-	-	-		X	X	X	X	-
Sodium azide	X	X	-	247-852-1	-		X	X	X	X	KE-31357 X
Pentanedioic acid, 2-oxo-, disodium salt	-	X	-	206-167-8	-		-	-	X	-	-
Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 1,4-dihydro-1-.beta.-D-ribofuranosyl-3-pyridinecarboxamide, disodium salt	X	X	-	210-123-3	-		-	-	X	-	-
Dehydrogenase, D-lactate	-	X	-	232-829-0	-		-	-	-	-	-
Dehydrogenase, malate	XU	X	-	232-622-5	-		-	-	X	-	KE-22770 X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
 S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
 T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
 XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
 Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
 Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Sodium azide	26628-22-8	< 0.2%	1.0

SARA 311/312 Hazardous Categorization

Acute Health Hazard No
 Chronic Health Hazard No
 Fire Hazard No
 Sudden Release of Pressure Hazard No
 Reactive Hazard No

Clean Water Act

Not applicable

Clean Air Act

Not applicable

OSHA

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Sodium azide	1000 lb	1000 lb

California Proposition 65

This product does not contain any Proposition 65 chemicals.

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium azide	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

D1B Toxic materials

**16. OTHER INFORMATION**

Prepared By Regulatory Affairs
Thermo Fisher Scientific
Tel: (412) 490-8929

Creation Date 07-Dec-2009

Print Date 07-Dec-2009

Revision Summary "****", and red text indicates revision

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS