

Material Safety Data Sheet

Creation Date 06-Oct-2009

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Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Direct TIBC Reagent 1

Cat No. 907450, 907450-TF, 906706-154, TS3500, 03940010

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

CAUTION!

Emergency Overview

May cause eye, skin, and respiratory tract irritation . The toxicological properties have not been fully investigated.
WARNING! This product contains a chemical known in the State of California to cause cancer.

Appearance Dark Purple

Physical State Liquid

Odor No information available

Target Organs None known.

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. May be harmful if inhaled.

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed.

Chronic Effects None known.

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 %
Water, distilled, conductivity or of similar purity	7732-18-5	> 85
Acetic acid, glacial	64-19-7	< 1.5
Tween 20	9005-64-5	< 10
Hexadecyltrimethylammonium bromide	57-09-0	< 0.1
Thiourea	62-56-6	< 0.1
Iron (III) chloride hexahydrate	10025-77-1	< 0.001
ProClin 300	NA	< 0.1
Magnesium chloride, hexahydrate	7791-18-6	< 2
2,6-Dichloro-4'-hydroxy-3,3"-dimethylfuchsone-5,5"-dicarboxylic acid, disodium salt	1796-92-5	< 0.01

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. Get medical attention immediately if symptoms occur.
Ingestion	Do not induce vomiting. Obtain medical attention.
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 1** **Flammability 0** **Instability 0** **Physical hazards N/A**

6. ACCIDENTAL RELEASE MEASURES

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

Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable and closed containers for disposal.

7. HANDLING AND STORAGE

Handling Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist.

Storage Keep container tightly closed. 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
Acetic acid, glacial	TWA: 10 ppm STEL: 15 ppm	(Vacated) TWA: 10 ppm (Vacated) TWA: 25 mg/m ³ TWA: 25 mg/m ³ TWA: 10 ppm	IDLH: 50 ppm TWA: 25 mg/m ³ TWA: 10 ppm STEL: 15 ppm STEL: 37 mg/m ³

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Acetic acid, glacial	TWA: 10 ppm TWA: 25 mg/m ³ STEL: 37 mg/m ³ STEL: 15 ppm	TWA: 10 ppm TWA: 25 mg/m ³ STEL: 37 mg/m ³ STEL: 15 ppm	TWA: 10 ppm TWA: 25 mg/m ³ STEL: 37 mg/m ³ STEL: 15 ppm

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	Liquid
Appearance	Dark Purple
Odor	No information available
Odor Threshold	No information available.
pH	No information available.
Vapor Pressure	No information available.
Vapor Density	No information available.
Viscosity	No information available.
Boiling Point/Range	No information available.
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
log Pow	No data available

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Conditions to Avoid	Excess heat.
Incompatible Materials	None known
Hazardous Decomposition Products	None known
Hazardous Polymerization	Hazardous polymerization does not occur
Hazardous Reactions .	None under normal processing.

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
Water, distilled, conductivity or of similar purity	90 mL/kg (Rat)	Not listed	Not listed

Acetic acid, glacial	3310 mg/kg (Rat)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat) 4 h
Tween 20	36700 µL/kg (Rat)	Not listed	Not listed
Hexadecyltrimethylammonium bromide	410 mg/kg (Rat)	Not listed	Not listed
Thiourea	125 mg/kg (Rat)	6810 mg/kg (Rat)	0.9 mg/L (Rat) 4 h
Magnesium chloride, hexahydrate	8100 mg/kg (Rat)	Not listed	Not listed

Irritation No information available.

Toxicologically Synergistic Products No information available.

Chronic Toxicity

Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Mexico
Thiourea	Not listed	Not listed	Reasonably Anticipated	X	Not listed

NTP: (National Toxicity Program)

NTP: (National Toxicity Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

Sensitization No information available.

Mutagenic Effects No information available.

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

Other Adverse Effects The toxicological properties have not been fully investigated..

Endocrine Disruptor Information No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Acetic acid, glacial	Not listed	Not listed	= 8.8 mg/L EC50 Photobacterium phosphoreum 15 min = 8.8 mg/L EC50 Photobacterium phosphoreum 25 min = 8.8 mg/L EC50 Photobacterium phosphoreum 5 min	EC50 24 h 95 mg/L

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Hexadecyltrimethylammonium bromide	EC50 96 h 0.09 mg/L	Not listed	= 9.84 mg/L EC50 Photobacterium phosphoreum 5 min	Not listed
Thiourea	EC50 96 h 6.8 mg/L EC50 72 h 3.8 mg/L EC50 96 h 6.8 mg/L	Not listed	EC50 = 3100 mg/L 30 min EC50 = 3395 mg/L 15 min	EC50 48 h 35 mg/L

Persistence and Degradability No information available

Bioaccumulation/ Accumulation No information available

Mobility

Component	log Pow
Acetic acid, glacial	-0.31
Thiourea	-0.92

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

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Thiourea - 62-56-6	U219	-

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

All of the components in the product are on the following Inventory lists:

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Water, distilled, conductivity or of similar purity	X	X	-	231-791-2	-		X	-	X	X	KE-35400 X

Acetic acid, glacial	X	X	-	200-580-7	-		X	X	X	X	KE-00013 X
Tween 20	XU	X	-	-	-	>1<6.5 mol ethoxylated units	X	X	X	X	KE-31681 X
Hexadecyltrimethylammonium bromide	X	X	-	200-311-3	-		X	X	X	X	KE-34534 X
Thiourea	X	X	-	200-543-5	-		X	X	X	X	KE-33805 X
Iron (III) chloride hexahydrate	-	-	-	-	-		X	X	X	X	-
Magnesium chloride, hexahydrate	-	-	-	-	-		X	X	X	X	-
2,6-Dichloro-4'-hydroxy-3,3'-dimethylfuchstone-5,5"-dicarboxylic acid, disodium salt	X	X	-	217-279-1	-		-	X	X	X	KE-12300 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 %
Thiourea	62-56-6	< 0.1	0.1

SARA 311/312 Hazardous Categorization

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

Clean Water Act

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Acetic acid, glacial	X	5000 lb	-	-

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
Acetic acid, glacial	5000 lb	-
Thiourea	10 lb	-

California Proposition 65

This product contains the following Proposition 65 chemicals:

Component	CAS-No	California Prop. 65	Prop 65 NSRL
Thiourea	62-56-6	Carcinogen	10 µg/day

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetic acid, glacial	X	X	X	-	X
Thiourea	X	X	X	X	X
Iron (III) chloride hexahydrate	-	-	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 Moderate risk, Grade 2

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

Non-controlled

16. OTHER INFORMATION

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

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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