

# SAFETY DATA SHEET

Creation Date 21-Oct-2009 Revision Date 18-Jan-2018 **Revision Number** 3

1. Identification

**Product Name** Ethyl alcohol, denatured (A407)

Cat No.: A407-1; A407-4; A407-20; A407-200; A407-500; A407P-4; A407RB-19;

A407RB-115; A407RB-200; A407S-4; A407SK-4

Ethanol, denatured; Grain alcohol, denatured; Ethyl hydroxide, denatured **Synonyms** 

**Recommended Use** Laboratory chemicals.

Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company

Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100

**Emergency Telephone Number** 

CHEMTREC®, Inside the USA: 800-424-9300 CHEMTREC®. Outside the USA: 001-703-527-3887

# 2. Hazard(s) identification

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids

Specific target organ toxicity (single exposure)

Category 1 Target Organs - Respiratory system, Central nervous system (CNS), Optic nerve.

Specific target organ toxicity - (repeated exposure)

Category 1

Category 2

Target Organs - Kidney, Liver, Blood.

**Label Elements** 

#### Signal Word

Danger

### **Hazard Statements**

Highly flammable liquid and vapor May cause respiratory irritation May cause drowsiness or dizziness Causes damage to organs

Causes damage to organs through prolonged or repeated exposure



### **Precautionary Statements**

#### Prevention

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting/equipment

Use only non-sparking tools

Take precautionary measures against static discharge

Wear protective gloves/protective clothing/eye protection/face protection

Keep cool

### Response

IF exposed: Call a POISON CENTER or doctor/physician

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

#### Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

#### Fire

In case of fire: Use CO2, dry chemical, or foam for extinction

## Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

## **Disposal**

Dispose of contents/container to an approved waste disposal plant

### Hazards not otherwise classified (HNOC)

Repeated exposure may cause skin dryness or cracking

WARNING. Cancer and Reproductive Harm - https://www.p65warnings.ca.gov/.

# 3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Ethyl alcohol	64-17-5	88.785
Water	7732-18-5	4.673
Methyl alcohol	67-56-1	3.738
Methylisobutyl ketone	108-10-1	0.935
Ethyl acetate	141-78-6	0.935
Hexane	110-54-3	0.822
Toluene	108-88-3	0.075

## 4. First-aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In

the case of contact with eyes, rinse immediately with plenty of water and seek medical

advice.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Immediate medical

attention is required.

Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if Inhalation

victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate

medical attention is required.

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

Most important symptoms and

effects

Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Treat symptomatically

Notes to Physician

# 5. Fire-fighting measures

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed **Suitable Extinguishing Media** 

containers exposed to fire with water spray.

**Unsuitable Extinguishing Media** Water may be ineffective

13.9 °C / 57 °F **Flash Point** 

Method -No information available

**Autoignition Temperature** 362.8 °C / 685 °F

**Explosion Limits** 

Upper No data available Lower No data available Sensitivity to Mechanical Impact No information available Sensitivity to Static Discharge No information available

#### **Specific Hazards Arising from the Chemical**

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.

### **Hazardous Combustion Products**

Carbon monoxide (CO) Carbon dioxide (CO2)

# **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. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
3	3	0	N/A

### 6. Accidental release measures **Personal Precautions** Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges. Should not be released into the environment. Do not flush into surface water or sanitary **Environmental Precautions** sewer system. See Section 12 for additional ecological information.

Up

Methods for Containment and Clean Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

# 7. Handling and storage

### Handling

Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Do not ingest. Keep away from open flames, hot surfaces and sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges. Use only non-sparking tools.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.

# 8. Exposure controls / personal protection

# **Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Ethyl alcohol	STEL: 1000 ppm	(Vacated) TWA: 1000 ppm	IDLH: 3300 ppm	TWA: 1000 ppm
		(Vacated) TWA: 1900 mg/m <sup>3</sup>		TWA: 1900 mg/m <sup>3</sup>
		TWA: 1000 ppm	TWA: 1900 mg/m <sup>3</sup>	
		TWA: 1900 mg/m <sup>3</sup>		
Methyl alcohol	TWA: 200 ppm	(Vacated) TWA: 200 ppm	IDLH: 6000 ppm	TWA: 200 ppm
	STEL: 250 ppm	(Vacated) TWA: 260 mg/m <sup>3</sup>	TWA: 200 ppm	TWA: 260 mg/m <sup>3</sup>
	Skin	(Vacated) STEL: 250 ppm	TWA: 260 mg/m <sup>3</sup>	STEL: 250 ppm
		(Vacated) STEL: 325 mg/m <sup>3</sup>		STEL: 310 mg/m <sup>3</sup>
		Skin	STEL: 325 mg/m <sup>3</sup>	
		TWA: 200 ppm		
		TWA: 260 mg/m <sup>3</sup>		
Methylisobutyl ketone	TWA: 20 ppm	(Vacated) TWA: 50 ppm	IDLH: 500 ppm	TWA: 50 ppm
	STEL: 75 ppm	(Vacated) TWA: 205 mg/m <sup>3</sup>	TWA: 50 ppm	TWA: 205 mg/m <sup>3</sup>
		(Vacated) STEL: 75 ppm	TWA: 205 mg/m <sup>3</sup>	STEL: 75 ppm
		(Vacated) STEL: 300 mg/m <sup>3</sup>		STEL: 307 mg/m <sup>3</sup>
		TWA: 100 ppm	STEL: 300 mg/m <sup>3</sup>	
		TWA: 410 mg/m <sup>3</sup>		
Ethyl acetate	TWA: 400 ppm	(Vacated) TWA: 400 ppm	IDLH: 2000 ppm	TWA: 400 ppm
		(Vacated) TWA: 1400 mg/m <sup>3</sup>		TWA: 1400 mg/m <sup>3</sup>
		TWA: 400 ppm	TWA: 1400 mg/m <sup>3</sup>	
		TWA: 1400 mg/m <sup>3</sup>		
Hexane	TWA: 50 ppm	(Vacated) TWA: 50 ppm	IDLH: 1100 ppm	TWA: 50 ppm
	Skin	(Vacated) TWA: 180 mg/m <sup>3</sup>	TWA: 50 ppm	TWA: 176 mg/m <sup>3</sup>
		TWA: 500 ppm	TWA: 180 mg/m <sup>3</sup>	
		TWA: 1800 mg/m <sup>3</sup>		
Toluene	TWA: 20 ppm	(Vacated) TWA: 100 ppm	IDLH: 500 ppm	TWA: 50 ppm
		(Vacated) TWA: 375 mg/m <sup>3</sup>	TWA: 100 ppm	TWA: 188 mg/m <sup>3</sup>
		Ceiling: 300 ppm	TWA: 375 mg/m³	
		(Vacated) STEL: 150 ppm	STEL: 150 ppm	
		(Vacated) STEL: 560 mg/m <sup>3</sup>	STEL: 560 mg/m <sup>3</sup>	
		TWA: 200 ppm		

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

**Engineering Measures** 

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof

electrical/ventilating/lighting/equipment.

### 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.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

# 9. Physical and chemical properties

Physical State Liquid

Appearance Clear, Colorless
Odor aromatic

Odor Threshold
pH
No information available
No information available
No information available
-90.0 °C / -130 °F

 Melting Point/Range
 -90.0 °C / -130 °F

 Boiling Point/Range
 78.5 °C / 173.3 °F

 Flash Point
 13.9 °C / 57 °F

Evaporation Rate 2.0

Flammability (solid,gas)

Not applicable
Flammability or explosive limits

Upper No data available
Lower No data available
Vapor Pressure 40.9 mmHg @ 20 °C
Vapor Density No information available

Specific Gravity 0.7905

Solubility

Partition coefficient; n-octanol/water

Autoignition Temperature

Pecomposition Temperature

Viscosity

Soluble in water

No data available

362.8 °C / 685 °F

No information available

No information available

## 10. Stability and reactivity

Reactive Hazard None known, based on information available

**Stability** Stable under normal conditions.

Conditions to Avoid Incompatible products. Excess heat. Keep away from open flames, hot surfaces and

sources of ignition.

Incompatible Materials Strong oxidizing agents, Strong acids, Acid anhydrides, Acid chlorides

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

## 11. Toxicological information

**Acute Toxicity** 

**Product Information** 

Oral LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Dermal LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Vapor LC50

Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

**Component Information** 

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethyl alcohol	LD50 = 7060 mg/kg (Rat)	Not listed	20000 ppm/10H ( Rat )

Water	-	Not listed	Not listed
Methyl alcohol	Calc. ATE 60 mg/kg LD50 > 1187 – 2769 mg/kg ( Rat )	Calc. ATE 60 mg/kg LD50 = 17100 mg/kg(Rabbit)	Calc. ATE 0.6 mg/L (vapours) or 0.5 mg/L (mists) LC50 = 128.2 mg/L ( Rat ) 4 h
Methylisobutyl ketone	LD50 = 2080 mg/kg (Rat)	LD50 = 3000 mg/kg ( Rabbit )	LC50 = 8.2 mg/L (Rat) 4 h
Ethyl acetate	10,200 mg/kg ( Rat )	> 20 mL/kg ( Rabbit ) > 18000 mg/kg (Rabbit)	58 mg/l (rat; 8 h)
Hexane	LD50 = 25 g/kg (Rat)	LD50 = 3000 mg/kg ( Rabbit )	LC50 = 48000 ppm (Rat) 4 h
Toluene	> 5000 mg/kg (Rat)	LD50 = 12000 mg/kg ( Rabbit )	26700 ppm (Rat) 1 h

**Toxicologically Synergistic** 

No information available

**Products** 

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes and skin Sensitization No information available

The table below indicates whether each agency has listed any ingredient as a carcinogen. Carcinogenicity

Ethanol has been shown to be carcinogenic in long-term studies only when consumed and

abused as an alcoholic beverage.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Ethyl alcohol	64-17-5	Group 1	Known	A3	Х	Not listed
Water	7732-18-5	Not listed				
Methyl alcohol	67-56-1	Not listed				
Methylisobutyl ketone	108-10-1	Group 2B	Not listed	A3	X	Not listed
Ethyl acetate	141-78-6	Not listed				
Hexane	110-54-3	Not listed				
Toluene	108-88-3	Not listed				

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans Group 2B - Possibly Carcinogenic to Humans

ACGIH: (American Conference of Governmental Industrial

Hygienists)

A1 - Known Human Carcinogen A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mutagenic effects have occurred in humans. **Mutagenic Effects** 

Adverse reproductive effects have occurred in humans. **Reproductive Effects** 

**Developmental Effects** Substances known to cause developmental toxicity in humans. Component substance is

listed on California Proposition 65 as a developmental hazard.

**Teratogenicity** Teratogenic effects have occurred in humans.

STOT - single exposure Respiratory system Central nervous system (CNS) Optic nerve

STOT - repeated exposure Kidney Liver Blood

No information available **Aspiration hazard** 

Symptoms / effects,both acute and Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: delayed

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness,

tiredness, nausea and vomiting

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** Tumorigenic effects have been reported in experimental animals. See actual entry in

RTECS for complete information.

# 12. Ecological information

#### **Ecotoxicity**

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Ethyl alcohol	EC50 (72h) = 275 mg/l (Chlorella vulgaris)	LC50 = 14200 mg/l/96h	Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min Photobacterium phosphoreum:EC50 = 35470 mg/L/5 min	Ç
Methyl alcohol	Not listed	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min	EC50 > 10000 mg/L 24h
Methylisobutyl ketone	EC50: 400 mg/L/96h	LC50: 496 - 514 mg/L, 96h flow-through (Pimephales promelas)	EC50 = 79.6 mg/L 5 min	EC50: 4280.0 mg/L/24h EC50: 170 mg/L/48h EC50: 4280.0 mg/L/24h
Ethyl acetate	EC50 = 3300 mg/L/48h	Fathead minnow: LC50: 230 mg/l/ 96h Gold orfe: LC50: 270 mg/L/48h	EC50 = 1180 mg/L 5 min EC50 = 1500 mg/L 15 min EC50 = 5870 mg/L 15 min EC50 = 7400 mg/L 2 h	EC50 = 717 mg/L/48h
Hexane	Not listed	LC50: 2.1 - 2.98 mg/L, 96h flow-through (Pimephales promelas)	Not listed	EC50: 3.87 mg/L/48h
Toluene	EC50: = 12.5 mg/L, 72h static (Pseudokirchneriella subcapitata) EC50: > 433 mg/L, 96h (Pseudokirchneriella subcapitata)	50-70 mg/L LC50 96 h 5-7 mg/L LC50 96 h 15-19 mg/L LC50 96 h 28 mg/L LC50 96 h 12 mg/L LC50 96 h	EC50 = 19.7 mg/L 30 min	EC50: = 11.5 mg/L, 48h (Daphnia magna) EC50: 5.46 - 9.83 mg/L, 48h Static (Daphnia magna)

Persistence and Degradability

Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** 

No information available.

Mobility

Will likely be mobile in the environment due to its volatility.

Component	log Pow
Ethyl alcohol	-0.32
Methyl alcohol	-0.74
Methylisobutyl ketone	1.19
Ethyl acetate	0.6
Hexane	4.11
Toluene	2.7

# 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
Methyl alcohol - 67-56-1	U154	-
Methylisobutyl ketone - 108-10-1	U161	-
Ethyl acetate - 141-78-6	U112	-
Toluene - 108-88-3	U220	-

# 14. Transport information

DOT

UN-No UN1170

Proper Shipping Name ETHANOL SOLUTION

Hazard Class 3
Packing Group ||

**TDG** 

UN-No UN1170

Proper Shipping Name ETHANOL SOLUTION

Hazard Class 3
Packing Group ||

**IATA** 

UN-No UN1170

Proper Shipping Name ETHANOL SOLUTION

Hazard Class 3 Packing Group II

IMDG/IMO

UN-No UN1170

Proper Shipping Name ETHANOL SOLUTION

Hazard Class 3
Packing Group ||

# 15. Regulatory information

#### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Ethyl alcohol	Х	Χ	-	200-578-6	-		Χ	Χ	Χ	Χ	Χ
Water	Х	Χ	-	231-791-2	-		Χ	-	Χ	Х	Χ
Methyl alcohol	Х	Χ	-	200-659-6	-		Χ	Χ	Χ	Х	Χ
Methylisobutyl ketone	Х	Χ	-	203-550-1	-		Х	Χ	Χ	Х	Х
Ethyl acetate	Х	Χ	-	205-500-4	-		Χ	Χ	Χ	Х	Χ
Hexane	Х	Χ	-	203-777-6	438-390		Х	Χ	Χ	Х	Х
					-3						
Toluene	Х	Х	-	203-625-9	-		Χ	Χ	Χ	Х	Х

### 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 %
Methyl alcohol	67-56-1	3.738	1.0
Methylisobutyl ketone	108-10-1	0.935	1.0
Hexane	110-54-3	0.822	1.0
Toluene	108-88-3	0.075	1.0

### SARA 311/312 Hazard Categories See s

See section 2 for more information

**CWA (Clean Water Act)** 

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Toluene	Х	1000 lb	X	X

### Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Methyl alcohol	X		-
Methylisobutyl ketone	X		-
Hexane	X		-
Toluene	X		-

**OSHA** Occupational Safety and Health Administration 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	
Methyl alcohol	5000 lb	-	
Methylisobutyl ketone	5000 lb	-	
Ethyl acetate	5000 lb	-	
Hexane	5000 lb	-	
Toluene	1000 lb 1 lb	-	

**California Proposition 65** 

This product contains the following proposition 65 chemicals

CAS-No	California Prop. 65	Prop 65 NSRL	Category
64-17-5	Development (alcoholic	Development (alcoholic -	
	beverages only)		Carcinogen
67-56-1	Developmental	-	Developmental
108-10-1	Carcinogen	-	Developmental Carcinogen
400.00.0			Developmental
	64-17-5 67-56-1	64-17-5  Development (alcoholic beverages only)  67-56-1  Developmental  108-10-1  Carcinogen Developmental	64-17-5 Development (alcoholic beverages only) 67-56-1 Developmental - 108-10-1 Carcinogen - Developmental

U.S. State Right-to-Know

Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ethyl alcohol	Χ	X	X	X	Х
Water	-	-	X	-	-
Methyl alcohol	X	X	X	X	Х
Methylisobutyl ketone	X	Х	X	X	Х
Ethyl acetate	Х	Х	X	-	Х
Hexane	Χ	X	X	X	Х
Toluene	Х	Х	X	X	Х

### **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 Serious risk, Grade 3

## 16. Other information

Prepared By Regulatory Affairs

Thermo Fisher Scientific

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 Creation Date
 21-Oct-2009

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**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard

replacing the current legislation under 29 CFR 1910.1200 to align with the Globally

Harmonized System of Classification and Labeling of Chemicals (GHS).

#### **Disclaimer**

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of SDS**