FSHA407

Ethyl alcohol, denatured (A407)

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明: 乙醇，改性的
Product Description: **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**

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

Supplier

Fisher Scientific Company
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

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.
Uses advised against No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State	**Appearance**	**Odor**
Liquid	Clear, Colorless	aromatic

Emergency Overview

Highly flammable liquid and vapor. May cause damage to organs. Causes serious eye irritation. May be harmful if inhaled. Repeated exposure may cause skin dryness or cracking.

Classification of the substance or mixture

Flammable liquids.	Category 2
Acute Oral Toxicity	Category 5
Acute Inhalation Toxicity - Vapors	Category 5
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity - (single exposure)	Category 2

Label Elements

Signal Word **Danger**

Hazard Statements
H225 - Highly flammable liquid and vapor
H303 - May be harmful if swallowed
H319 - Causes serious eye irritation
H333 - May be harmful if inhaled
H371 - May cause damage to organs

Precautionary Statements
Prevention
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 - Keep container tightly closed
P240 - Ground and bond container and receiving equipment
P242 - Use non-sparking tools
P243 - Take action to prevent static discharges
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection/ face protection
Response
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
P304 + P340 - IF INHALED: Remove person to fresh air and keep 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
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
Storage
P403 + P235 - Store in a well-ventilated place. Keep cool
Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards
Vapors may cause flash fire or explosion. Highly flammable.
Health Hazards
May cause damage to organs. Causes serious eye irritation. May be harmful if inhaled.
Environmental hazards
Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants. Will likely be mobile in the environment due to its volatility. The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces.

This product does not contain any known or suspected endocrine disruptors.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Ethyl alcohol	64-17-5	83.8 - 87.2
Water	7732-18-5	<7.8
Methyl alcohol	67-56-1	2.6 - 4.8
Methylisobutyl ketone	108-10-1	1.3 - 2.5
Ethyl acetate	141-78-6	0.5 - 1.9
Hexane	110-54-3	<1

SECTION 4. FIRST AID MEASURES

General Advice
If symptoms persist, call a physician.

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

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation
Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion
Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects
Difficulty in breathing. 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

Self-Protection of the First Aider
Remove all sources of ignition.

Notes to Physician
Treat symptomatically. Symptoms may be delayed.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons
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.

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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Ensure adequate ventilation. Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental Precautions
Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up
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.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

Handling
Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Flammables area.

Specific Use(s)
Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	China	Taiwan	Thailand	Hong Kong
Ethyl alcohol	-	TWA: 1000 ppm TWA: 1880 mg/m³	TWA: 1000 ppm	TWA: 1000 ppm TWA: 1880 mg/m³
Methyl alcohol	TWA: 25 mg/m³ STEL: 50 mg/m³ Skin	TWA: 200 ppm TWA: 262 mg/m³		TWA: 200 ppm TWA: 262 mg/m³ STEL: 250 ppm STEL: 328 mg/m³
Methylisobutyl ketone	-	TWA: 50 ppm TWA: 205 mg/m³	TWA: 100 ppm	TWA: 50 ppm TWA: 205 mg/m³ STEL: 75 ppm STEL: 307 mg/m³
Ethyl acetate	TWA: 200 mg/m³ STEL: 300 mg/m³	TWA: 400 ppm TWA: 1440 mg/m³	TWA: 400 ppm	TWA: 400 ppm TWA: 1440 mg/m³
Hexane	TWA: 100 mg/m³ STEL: 180 mg/m³ Skin	TWA: 50 ppm TWA: 176 mg/m³	TWA: 500 ppm	TWA: 20 ppm TWA: 70 mg/m³

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
Ethyl alcohol	STEL: 1000 ppm	(Vacated) TWA: 1000 ppm (Vacated) TWA: 1900 mg/m³ TWA: 1000 ppm TWA: 1900 mg/m³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m³	TWA: 1000 ppm TWA; 1920 mg/m³ TWA WEL - STEL: 3000 ppm STEL; 5760 mg/m³ STEL	
Methyl alcohol	TWA: 200 ppm STEL: 250 ppm Skin	(Vacated) TWA: 200 ppm (Vacated) TWA: 260 mg/m³ (Vacated) STEL: 250 ppm (Vacated) STEL: 325 mg/m³ Skin TWA: 200 ppm TWA: 260 mg/m³	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m³ STEL: 250 ppm STEL: 325 mg/m³	WEL - TWA: 200 ppm TWA; 266 mg/m³ TWA WEL - STEL: 250 ppm STEL; 333 mg/m³ STEL	TWA: 200 ppm 8 hr TWA: 260 mg/m³ 8 hr Skin
Methylisobutyl ketone	TWA: 20 ppm STEL: 75 ppm	(Vacated) TWA: 50 ppm (Vacated) TWA: 205 mg/m³ (Vacated) STEL: 75 ppm (Vacated) STEL: 300 mg/m³ TWA: 100 ppm TWA: 410 mg/m³	IDLH: 500 ppm TWA: 50 ppm TWA: 205 mg/m³ STEL: 75 ppm STEL: 300 mg/m³	STEL: 100 ppm 15 min STEL: 416 mg/m³ 15 min TWA: 50 ppm 8 hr TWA: 208 mg/m³ 8 hr Skin	TWA: 20 ppm (8h) TWA: 83 mg/m³ (8h) STEL: 50 ppm (15min) STEL: 208 mg/m³ (15min)
Ethyl acetate	TWA: 400 ppm	(Vacated) TWA: 400 ppm (Vacated) TWA: 1400 mg/m³ TWA: 400 ppm TWA: 1400 mg/m³	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m³	STEL: 1468 mg/m³ 15 min STEL: 400 ppm 15 min TWA: 734 mg/m³ 8 hr TWA: 200 ppm 8 hr	TWA: 734 mg/m³ (8h) TWA: 200 ppm (8h) STEL: 1468 mg/m³ (15min) STEL: 400 ppm (15min)
Hexane	TWA: 50 ppm Skin	(Vacated) TWA: 50 ppm (Vacated) TWA: 180 mg/m³ TWA: 500 ppm TWA: 1800 mg/m³	IDLH: 1100 ppm TWA: 50 ppm TWA: 180 mg/m³	TWA: 72 mg/m³ TWA: 20 ppm STEL: 60 ppm STEL: 216 mg/m³	TWA: 20 ppm (8hr) TWA: 72 mg/m³ (8hr)

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH: NIOSH - National Institute for Occupational Safety and Health

Monitoring methods
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS70 General methods for sampling airborne gases and vapours MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

Exposure Controls

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. Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Viton (R)	See manufacturers recommendations	-	EN 374	(minimum requirement)

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Small scale/Laboratory use Maintain adequate ventilation

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

Environmental exposure controls Do not allow material to contaminate ground water system. Prevent product from entering drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear, Colorless
Physical State Liquid

Odor	aromatic	
Odor Threshold	No data available	
pH	No information available	
Melting Point/Range	-90.0 °C / -130 °F	
Softening Point	No data available	
Boiling Point/Range	78.5 °C / 173.3 °F	
Flash Point	13.9 °C / 57 °F	**Method -** No information available
Evaporation Rate	2.0	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Vapor Pressure	40.9 mmHg @ 20 °C	
Vapor Density	No information available	(Air = 1.0)
Specific Gravity / Density	0.7905	
Bulk Density	Not applicable	Liquid
Water Solubility	Miscible	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
Ethyl alcohol	-0.32
Methyl alcohol	-0.74
Methylisobutyl ketone	1.9
Ethyl acetate	0.73
Hexane	4.11

Autoignition Temperature	362.8 °C / 685 °F	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties		Vapors may form explosive mixtures with air
Oxidizing Properties	No information available	
VOC Content(%)	100	

SECTION 10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Hazardous Reactions None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

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

Materials to avoid Strong oxidizing agents. Strong acids. Acid anhydrides. Acid chlorides.

Hazardous Decomposition Products Carbon monoxide (CO). Carbon dioxide (CO_2).

SECTION 11. TOXICOLOGICAL INFORMATION

Product Information

(a) acute toxicity;
Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethyl alcohol	LD50 = 10470 mg/kg OECD 401 (Rat) 3450 mg/kg (Mouse)		LC50 = 117-125 mg/l (4h) OECD 403 (rat) 20000 ppm/10H (rat)
Water	-	-	-
Methyl alcohol	LD50 = 1187 – 2769 mg/kg (Rat)	LD50 = 17100 mg/kg (Rabbit)	LC50 = 128.2 mg/L (Rat) 4 h

Methylisobutyl ketone	LD50 = 2080 mg/kg (Rat)	LD50 = 3000 mg/kg (Rabbit)	LC50 2000 - 4000 ppm (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

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory No data available
Skin No data available

Component	Test method	Test species	Study result
Ethyl alcohol 64-17-5 (83.8 - 87.2)	Mouse Ear Swelling Test (MEST) --- OECD Test Guideline 429 Local Lymph Node Assay	mouse --- mouse	non-sensitising --- non-sensitising
Methyl alcohol 67-56-1 (2.6 - 4.8)	OECD Test Guideline 406 Guinea Pig Maximisation Test (GPMT)	guinea pig	non-sensitising
Ethyl acetate 141-78-6 (0.5 - 1.9)	OECD Test Guideline 406	guinea pig	- non-sensitising

(e) germ cell mutagenicity; No data available

Component	Test method	Test species	Study result
Ethyl alcohol 64-17-5 (83.8 - 87.2)	AMES test OECD Test Guideline 471 --- Gene cell mutation OECD Test Guideline 476	in vitro Bacteria --- in vitro Mammalian	negative --- negative
Ethyl acetate 141-78-6 (0.5 - 1.9)	OECD Test Guideline 471 AMES test --- OECD Test Guideline 473 Chromosomal aberration assay --- OECD Test Guideline 476 Gene cell mutation --- OECD Test Guideline 474 Mouse micronucleus assay	in vitro Bacteria --- in vitro Mammalian --- in vitro Mammalian --- in vivo Mammalian	negative --- negative --- negative --- negative

(f) carcinogenicity; No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen
Ethanol has been shown to be carcinogenic in long-term studies only when consumed and abused as an alcoholic beverage.

Component	EU	UK	Germany	IARC
Methylisobutyl ketone				Group 2B

(g) reproductive toxicity; No data available

Component	Test method	Test species / Duration	Study result
Ethyl alcohol 64-17-5 (83.8 - 87.2)	OECD Test Guideline 416 --- OECD Test Guideline 414	Oral / mouse 2 Generation --- Inhalation / Rat	NOAEL = 13.8 g/kg/day --- NOAEC = 16000 ppm

Methyl alcohol 67-56-1 (2.6 - 4.8)	OECD Test Guideline 416	Rat / Inhalation 2 Generation	NOAEC = 1.3 mg/l (air)
Methylisobutyl ketone 108-10-1 (1.3 - 2.5)	OECD Test Guideline 414	Rat Inhalation	NOAEL = 4.1 mg/l
Ethyl acetate 141-78-6 (0.5 - 1.9)	OECD Test Guideline 416 --- OECD Test Guideline 414	Oral mouse 2 Generation --- Inhalation Rat	NOAEL = 26400 mg/kg bw/day --- NOAEC = 73300 mg/m³

(h) STOT-single exposure; No data available

Results / Target organs Optic nerve
Central nervous system (CNS)

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; No data available

Symptoms / effects,both acute and delayed 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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects The product contains following substances which are hazardous for the environment. Contains a substance which is:. Toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Ethyl alcohol	Fathead minnow (Pimephales promelas) LC50 = 14200 mg/l/96h	EC50 = 9268 mg/L/48h EC50 = 10800 mg/L/24h	EC50 (72h) = 275 mg/l (Chlorella vulgaris)	Photobacterium phosphoreum:EC50 = 34634 mg/L/30 min Photobacterium phosphoreum:EC50 = 35470 mg/L/5 min
Methyl alcohol	Pimephales promelas: LC50 > 10000 mg/L 96h	EC50 > 10000 mg/L 24h		EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min
Methylisobutyl ketone	LC50: 496 - 514 mg/L, 96h flow-through (Pimephales promelas)	EC50: 4280.0 mg/L/24h EC50: 170 mg/L/48h EC50: 4280.0 mg/L/24h	EC50: 400 mg/L/96h	EC50 = 79.6 mg/L 5 min
Ethyl acetate	Fathead minnow: LC50: 230 mg/l/ 96h Gold orfe: LC50: 270 mg/L/48h	EC50 = 717 mg/L/48h	EC50 = 3300 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
Hexane	LC50: 2.1 - 2.98 mg/L, 96h flow-through (Pimephales promelas)	EC50: 3.87 mg/L/48h		

Persistence and Degradability Not applicable for mixtures
Persistence Persistence is unlikely, based on information available.

Component	Degradability
Ethyl alcohol 64-17-5 (83.8 - 87.2)	OECD 301E = 94%

Methyl alcohol 67-56-1 (2.6 - 4.8)	DT50 ~ 17.2d >94% after 20d
Methylisobutyl ketone 108-10-1 (1.3 - 2.5)	83 % (28 d) (OECD 301F)
Ethyl acetate 141-78-6 (0.5 - 1.9)	79 % (20 d) (OECD 301 D)

Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Ethyl alcohol	-0.32	No data available
Methyl alcohol	-0.74	<10 dimensionless
Methylisobutyl ketone	1.9	No data available
Ethyl acetate	0.73	30 dimensionless
Hexane	4.11	No data available

Mobility in soil The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces Will likely be mobile in the environment due to its volatility Disperses rapidly in air

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from Residues/Unused Products Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

Other Information Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations.

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport

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 II

IATA

UN-No UN1170
Proper Shipping Name Ethanol solution
Hazard Class 3

Packing Group II

Special Precautions for User No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories
X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Ethyl alcohol	X	X	X	X	200-578-6	X	X	X	X	X	X	KE-13217
Water	-	-	X	X	231-791-2	X	X	X	X		X	KE-35400
Methyl alcohol	X	X	X	X	200-659-6	X	X	X	X	X	X	KE-23193
Methylisobutyl ketone	X	X	X	X	203-550-1	X	X	X	X	X	X	KE-24725
Ethyl acetate	X	X	X	X	205-500-4	X	X	X	X	X	X	KE-00047
Hexane	X	X	X	X	203-777-6	X	X	X	X	X	X	KE-18626

Component	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Methyl alcohol	500 tonne	5000 tonne

National Regulations

Component	Toxic Chemical Substances Control Act
Methylisobutyl ketone 108-10-1 (1.3 - 2.5)	Class IV (1 wt%)

SECTION 16. OTHER INFORMATION

Creation Date 21-Oct-2009
Revision Date 14-May-2024
Revision Summary SDS sections updated.

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Chemical incident response training.
Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japanese Existing and New Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit
ACGIH - American Conference of Governmental Industrial Hygienists
DNEL - Derived No Effect Level
RPE - Respiratory Protective Equipment

TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
PNEC - Predicted No Effect Concentration
LD50 - Lethal Dose 50%

LC50 - Lethal Concentration 50%
NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic

EC50 - Effective Concentration 50%
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
MARPOL - International Convention for the Prevention of Pollution from Ships
ATE - Acute Toxicity Estimate
VOC - (Volatile Organic Compound)

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Physical hazards	On basis of test data
Health Hazards	Calculation method
Environmental hazards	Calculation method

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 Safety Data Sheet