SAFETY DATA SHEET

Creation Date Oct-2013 **Revision Date** Oct-2018 **Revision Number** 2

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

1.1. Product identification

Product Description:	**4-Methylpentan-2-one**
Product Grade:	SQ, ER
Cat No. :	Q2203H, Q12065, Q22035, Q22037
Synonyms	Isobutyl methyl ketone; Isopropylacetone; MIBK; Methyl isobutyl ketone
CAS-No	108-10-1
EC-No.	203-550-1
Molecular Formula	C6 H12 O
Reach Registration Number	01-2119473980-30

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Laboratory chemicals.
Sector of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category	PC21 - Laboratory chemicals
Process categories	PROC15 - Use as a laboratory reagent
Environmental release category	ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Uses advised against	No Information available

1.3. Details of the supplier of the safety data sheet

Company	Thermo Fisher Scientific India Pvt. Ltd 403-404, B-wing, Delphi, Hiranandani Business Park, Powai, Mumbai 400076, INDIA.
E-mail address	laboratorysolutions@thermofisher.com

1.4. Emergency telephone number

India Toll Free: 18 00 22 22 30
Chemtrec US: (800)424-9300
Chemtrec EU: 001(202)483-7616

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Flammable liquids	Category 2

Health hazards

Acute Inhalation Toxicity - Vapors	Category 4
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity - (single exposure)	Category 3

Environmental hazards

Based on available data, the classification criteria are not met

2.2. Label elements

Signal Word **Danger**

Hazard Statements

H225 - Highly flammable liquid and vapor
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
EUH066 - Repeated exposure may cause skin dryness or cracking

Precautionary Statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P240 - Ground/bond container and receiving equipment
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position 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

2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Methylisobutyl ketone	108-10-1	EEC No. 203-550-1	>95	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319) Acute Tox. 4 (H332) STOT SE 3 (H335) [EUH066]

Reach Registration Number	01-2119473980-30

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of 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. Obtain medical attention.

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

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

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.

Protection of First-aiders Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

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

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Extinguishing media which must not be used for safety reasons
No information available.

5.2. Special hazards arising from the substance or mixture

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

Hazardous Combustion Products
Carbon monoxide (CO), Carbon dioxide (CO_2).

5.3. Advice 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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Keep people away from and upwind of spill/leak. Avoid contact with the skin and the eyes.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional ecological information.

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

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

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits
List source(s): **EU** - Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. **UK** - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement. **IRE -** 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

Component	European Union	The United Kingdom	France	Belgium	Spain
Methylisobutyl ketone	TWA: 20 ppm 8 hr TWA: 83 mg/m³ 8 hr STEL: 50 ppm 15 min STEL: 208 mg/m³ 15 min	STEL: 100 ppm 15 min STEL: 416 mg/m³ 15 min TWA: 50 ppm 8 hr TWA: 208 mg/m³ 8 hr Skin	TWA / VME: 20 ppm (8 heures). restrictive limit TWA / VME: 83 mg/m³ (8 heures). restrictive limit STEL / VLCT: 50 ppm. restrictive limit STEL / VLCT: 208 mg/m³. restrictive limit	TWA: 20 ppm 8 uren TWA: 83 mg/m³ 8 uren STEL: 50 ppm 15 minuten STEL: 208 mg/m³ 15 minuten	STEL / VLA-EC: 50 ppm (15 minutos). STEL / VLA-EC: 208 mg/m³ (15 minutos). TWA / VLA-ED: 20 ppm (8 horas) TWA / VLA-ED: 83 mg/m³ (8 horas)

Component	Italy	Germany	Portugal	The Netherlands	Finland
Methylisobutyl ketone	TWA: 20 ppm 8 ore. Media Ponderata nel Tempo TWA: 83 mg/m³ 8 ore. Media Ponderata nel Tempo STEL: 50 ppm 15 minuti. Breve termine STEL: 208 mg/m³ 15 minuti. Breve termine	TWA: 20 ppm (8 Stunden). AGW - exposure factor 2 TWA: 83 mg/m³ (8 Stunden). AGW - exposure factor 2 TWA: 20 ppm (8 Stunden). MAK TWA: 83 mg/m³ (8 Stunden). MAK Höhepunkt: 40 ppm Höhepunkt: 166 mg/m³ Haut	STEL: 50 ppm 15 minutos STEL: 208 mg/m³ 15 minutos TWA: 20 ppm 8 horas TWA: 83 mg/m³ 8 horas	STEL: 208 mg/m³ 15 minuten TWA: 104 mg/m³ 8 uren	TWA: 20 ppm 8 tunteina TWA: 80 mg/m³ 8 tunteina STEL: 50 ppm 15 minuutteina STEL: 210 mg/m³ 15 minuutteina

Component	Austria	Denmark	Switzerland	Poland	Norway
Methylisobutyl ketone	Haut MAK-KZW: 50 ppm 15 Minuten MAK-KZW: 208 mg/m³ 15 Minuten	TWA: 20 ppm 8 timer TWA: 83 mg/m³ 8 timer Hud	Haut/Peau STEL: 40 ppm 15 Minuten STEL: 164 mg/m³ 15 Minuten	STEL: 200 mg/m³ 15 minutach TWA: 83 mg/m³ 8 godzinach	TWA: 20 ppm 8 timer TWA: 83 mg/m³ 8 timer STEL: 20 ppm 15 minutter. STEL: 83 mg/m³ 15

	MAK-TMW: 20 ppm 8 Stunden MAK-TMW: 83 mg/m³ 8 Stunden		TWA: 20 ppm 8 Stunden TWA: 82 mg/m³ 8 Stunden		minutter. Hud

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Methylisobutyl ketone	TWA: 50 mg/m³ STEL : 200 mg/m³	kože TWA-GVI: 20 ppm 8 satima. TWA-GVI: 83 mg/m³ 8 satima. STEL-KGVI: 50 ppm 15 minutama. STEL-KGVI: 208 mg/m³ 15 minutama.	TWA: 20 ppm 8 hr. TWA: 83 mg/m³ 8 hr. STEL: 50 ppm 15 min STEL: 208 mg/m³ 15 min Skin	STEL: 50 ppm STEL: 208 mg/m³ TWA: 20 ppm TWA: 83 mg/m³	TWA: 80 mg/m³ 8 hodinách. Potential for cutaneous absorption Ceiling: 200 mg/m³

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Methylisobutyl ketone	TWA: 20 ppm 8 tundides. TWA: 83 mg/m³ 8 tundides. STEL: 50 ppm 15 minutites. STEL: 208 mg/m³ 15 minutites.	TWA: 20 ppm 8 hr TWA: 83 mg/m³ 8 hr STEL: 50 ppm 15 min STEL: 208 mg/m³ 15 min	skin - potential for cutaneous absorption STEL: 100 ppm STEL: 410 mg/m³ TWA: 100 ppm TWA: 410 mg/m³	STEL: 208 mg/m³ 15 percekben. CK TWA: 83 mg/m³ 8 órában. AK	STEL: 50 ppm STEL: 208 mg/m³ TWA: 20 ppm 8 klukkustundum. TWA: 83 mg/m³ 8 klukkustundum. Skin notation Ceiling: 40 ppm Ceiling: 166 mg/m³

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Methylisobutyl ketone	STEL: 50 ppm STEL: 208 mg/m³ TWA: 20 ppm TWA: 83 mg/m³	TWA: 20 ppm IPRD TWA: 83 mg/m³ IPRD STEL: 50 ppm STEL: 208 mg/m³	TWA: 20 ppm 8 Stunden TWA: 83 mg/m³ 8 Stunden STEL: 50 ppm 15 Minuten STEL: 208 mg/m³ 15 Minuten	TWA: 20 ppm TWA: 83 mg/m³ STEL: 50 ppm 15 minuti STEL: 208 mg/m³ 15 minuti	TWA: 47 ppm 8 ore TWA: 200 mg/m³ 8 ore TWA: 20 ppm 8 ore TWA: 83 mg/m³ 8 ore STEL: 71 ppm 15 minute STEL: 300 mg/m³ 15 minute STEL: 50 ppm 15 minute STEL: 208 mg/m³ 15 minute

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Methylisobutyl ketone	Skin notation MAC: 5 mg/m³	Ceiling: 166 mg/m³ Potential for cutaneous absorption TWA: 20 ppm TWA: 83 mg/m³	TWA: 20 ppm 8 urah TWA: 83 mg/m³ 8 urah STEL: 50 ppm 15 minutah STEL: 207.5 mg/m³ 15 minutah	STV: 50 ppm 15 minuter STV: 200 mg/m³ 15 minuter LLV: 25 ppm 8 timmar. LLV: 100 mg/m³ 8 timmar.	TWA: 20 ppm 8 saat TWA: 83 mg/m³ 8 saat STEL: 50 ppm 15 dakika STEL: 208 mg/m³ 15 dakika

Biological limit values

List source(s): **UK** - Biological Monitoring Guidance Values provided by the UK's Health and Safety Executive (HSE) Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended) and EH40/2005.

Component	European Union	United Kingdom	France	Spain	Germany
Methylisobutyl ketone		4-Methylpentan-2-on: 20 µmol/L urine Post shift	Methylisobutylketone: 2 mg/L urine end of shift	Methyl isobutyl ketone: 1 mg/L urine end of shift	4-Methylpentan-2-one: 3.5 mg/L urine (end of shift)

Component	Gibraltar	Latvia	Slovak Republic	Luxembourg	Turkey
Methylisobutyl ketone			4-Methyl-2-pentanone: 3.5 mg/L urine end of exposure or work shift Hexone		

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

Derived No Effect Level (DNEL) See table for values

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral				
Dermal				11.8 mg/kg bw/day
Inhalation		208 mg/m³		83 mg/m³

Predicted No Effect Concentration (PNEC) See values below.

Fresh water	0.6 mg/l
Fresh water sediment	8.27 mg/kg dry weight (d.w.)
Marine water	0.06 mg/l
Marine water sediment	0.83 mg/kg dry weight (d.w.)
Water Intermittent	1.5 mg/l
Microorganisms in sewage treatment	27.5 mg/l
Soil (Agriculture)	1.3 mg/kg dry weight (d.w.)

8.2. 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 Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Laminated film (Barrier)	> 480 minutes	0.5 mm	EN 374	(minimum requirement)

Skin and body protection Long sleeved clothing

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.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

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
Recommended Filter type: Organic gases and vapours filter Type A Brown conforming to EN14387

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141
When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Colorless	
Physical State	Liquid	
Odor	Characteristic sweet	
Odor Threshold	0.04 - 0.08 ppm	
pH	No information available	
Melting Point/Range	-84 °C / -119.2 °F	
Softening Point	No data available	
Boiling Point/Range	117.4 °C / 243.3 °F	@ 760 mmHg
Flash Point	14 °C / 57.2 °F	**Method -** Closed cup
Evaporation Rate	1.6 (Butyl Acetate = 1.0)	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	**Lower** 1.4 vol% **Upper** 7.5 vol%	
Vapor Pressure	21.5 mbar @ 20 °C	
Vapor Density	3.45 (Air = 1.0)	(Air = 1.0)
Specific Gravity / Density	0.800	
Bulk Density	Not applicable	Liquid
Water Solubility	17 g/l (20°C)	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
Methylisobutyl ketone	1.19

Autoignition Temperature	460 °C / 860 °F	DIN 51794
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	Vapors may form explosive mixtures with air
Oxidizing Properties	No information available	

9.2. Other information

Molecular Formula	C6 H12 O
Molecular Weight	100.16

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

10.4. Conditions to avoid

Incompatible products. Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents. Peroxides.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO_2).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met
Dermal Based on available data, the classification criteria are not met
Inhalation Category 4

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methylisobutyl ketone	LD50 = 2080 mg/kg (Rat)	LD50 = 3000 mg/kg (Rabbit)	LC50 = 8.2 mg/L (Rat) 4 h

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

Respiratory Based on available data, the classification criteria are not met
Skin Based on available data, the classification criteria are not met

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met

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

Component	EU	UK	Germany	IARC
Methylisobutyl ketone				Group 2B

(g) reproductive toxicity; Based on available data, the classification criteria are not met

Component	Test method	Test species / Duration	Study result
Methylisobutyl ketone 108-10-1 (>95)	OECD Test Guideline 414	rat Inhalation	NOAEL = 4.1 mg/l

(h) STOT-single exposure; Category 3

Results / Target organs Nasal Cavities, Respiratory system, Eyes.

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

Target Organs No information available.

(j) aspiration hazard; Based on available data, the classification criteria are not met

Symptoms / effects,both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Do not empty into drains.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
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

12.2. Persistence and degradability Readily biodegradable

Persistence Soluble in water, Persistence is unlikely, based on information available.

Component	Degradability
Methylisobutyl ketone 108-10-1 (>95)	83 % (28 d) (OECD 301F)

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Methylisobutyl ketone	1.19	No data available

12.4. Mobility in soil The product is water soluble, and may spread in water systems . Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB assessment Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

12.6. Other adverse effects

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

13.1. Waste treatment methods

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.

European Waste Catalogue (EWC) According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other Information Waste codes should be assigned by the user based on the application for which the product was used. Do not dispose of waste into sewer. Can be incinerated, when in compliance with local regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN1245
14.2. UN proper shipping name METHYL ISOBUTYL KETONE
14.3. Transport hazard class(es) 3
14.4. Packing group II

ADR

14.1. UN number UN1245
14.2. UN proper shipping name METHYL ISOBUTYL KETONE
14.3. Transport hazard class(es) 3
14.4. Packing group II

IATA

14.1. UN number UN1245
14.2. UN proper shipping name METHYL ISOBUTYL KETONE
14.3. Transport hazard class(es) 3
14.4. Packing group II

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories X = listed

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Methylisobutyl ketone	203-550-1	-		X	X	-	X	X	X	X	X

National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Methylisobutyl ketone	WGK 1	

Component	France - INRS (Tables of occupational diseases)
Methylisobutyl ketone	Tableaux des maladies professionnelles (TMP) - RG 84

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.
Take note of Dir 94/33/EC on the protection of young people at work
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full Text of H-/EUH-Statements Referred to Under Section 3
H225 - Highly flammable liquid and vapor
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
EUH066 - Repeated exposure may cause skin dryness or cracking

Legend

CAS - Chemical Abstracts Service

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

TWA - Time Weighted Average

ACGIH - American Conference of Governmental Industrial Hygienists

IARC - International Agency for Research on Cancer

DNEL - Derived No Effect Level

PNEC - Predicted No Effect Concentration

RPE - Respiratory Protective Equipment

LD50 - Lethal Dose 50%

LC50 - Lethal Concentration 50%

EC50 - Effective Concentration 50%

NOEC - No Observed Effect Concentration

POW - Partition coefficient Octanol:Water

PBT - Persistent, Bioaccumulative, Toxic

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

IMO/IMDG - International Maritime Organization/International Maritime

Dangerous Goods Code

MARPOL - International Convention for the Prevention of Pollution from Ships

OECD - Organisation for Economic Co-operation and Development

ATE - Acute Toxicity Estimate

BCF - Bioconcentration factor

VOC - Volatile Organic Compounds

Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

Creation Date	Oct-2013
Next Revision Date	Oct-2023
Revision Summary	SDS section 1 updated and update of Format.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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