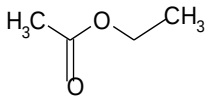
Date of compilation	: March 30, 2012
File Name	: 0044Nr Ghs16 Div.1 sds Ethyl acetate
Revision Number	: 16
Date of Issue of SDS	: January 02, 2024
Revision Due Date	: December, 2026
Supersedes date	: February 01, 2021
Supersedes version	: 0044Nr Ghs15 Div.1 sds Ethyl acetate

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

1.1. Product identifier

Product identification : Ethyl Acetate
CASRN : 141-78-6
EC# : 205-500-4
Trade name : Ethyl Acetate
Systematic Name : Acetic acid ethyl ester, Ethyl acetate
Synonyms : Ethyl acetic ester, Ethyl ester, Ethyl ethanoate, Acetoxyethane
Molecular Formula : $C_4H_8O_2$
Structural Formula



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

1.2.1. Relevant identified uses

It is used in Industrial formulation, as an extraction solvent/processing aid, in Industrial application of paints, coatings and other mixtures containing ethyl acetate by way of spraying and also as a laboratory reagent.

Uses advised against: None

1.3. Details of the manufacturer

Jubilant Ingrevia Limited

FACTORY OFFICE: Jubilant Ingrevia Limited., Nimbut Village-Nira (R.S.), District: Pune, Maharashtra-412102, India T: 8956156301 – 10

BELGIUM OFFICE:
Jubilant Life Sciences NV; Axxes Business Park, Guldensporen park 22 - Block C, Merelbeke (9820) - Belgium
T: +32 (0) 9 269 2867 (Direct) | M: +32 49 325 51 14;Fax: 0032 9 233 00 16; Email: chandroday_pandey@jubl.com
Website: www.jubl.com

HEAD OFFICE: Jubilant Ingrevia Limited., Plot 1-A, Sector 16-A, Institutional Area, Noida, Uttar Pradesh, 201301 - India
T +91-120-4361000 - F +91-120-4234881 / 84 / 85 / 87 / 95 / 96 support@jubl.com - www.jubilantingrevia.com

1.4. Emergency telephone number

For Chemical Emergency ONLY (in the case of fire, leak, spill, exposure or accident) Call

Chemtrec: 1-800-424-9300 (US), 1-703-527-3887 (Outside U.S.)

Chemtrec (India) : 000-800-100-7141

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS US Classification

Flammable liquid: Category 2	H225
Eye irritation: Category 2	H319
STOT single exposure: Category 3	H336

2.2. Label Elements

GHS US Classification
Pictograms:

GHS02 – flammable

GHS07 – Exclamation

Signal word: Danger!

Hazard and precautionary statements:

Hazard Statements

- H225: Highly flammable liquid and vapour.
- H319: Causes serious eye irritation

- H336: May cause drowsiness or dizziness.

PRECAUTIONARY STATEMENTS

- P233: Keep container tightly closed.
- P240: Ground/bond container and receiving equipment.
- P241: Use explosion-proof electrical/ventilating/lighting/ equipment.
- P242: Use only non-sparking tools.
- P243: Take precautionary measures against static discharge.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
- P271: Use only outdoors or in a well-ventilated area.
- P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P370+P378: In case of fire: Use water for extinction.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312: Call a POISON CENTER or doctor/physician if you feel unwell.
- P403+P233: Store in a well-ventilated place. Keep container tightly closed.
- P403+P235: Store in a well-ventilated place. Keep cool.
- P405: Store locked up.
- P501: Dispose of contents/container to local/regional/national/international regulations.

2.3 Other Hazards

- Substance is not classified as PBT nor as vPvB. For further details see section 12.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical	CAS#	EC#	Purity
Ethyl acetate	141-78-6	205-500-4	~ 100%

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Key symptoms

Acute effects

- **Eyes**: If in eyes rinse cautiously with water for at least 15 minutes. Remove contact lenses if easy to do so. Continue rinsing. Seek medical attention.
- **Skin:** Immediately take off all contaminated clothing. Wash thoroughly with water for at least 15 minutes. Wash contaminated clothes before reuse. Seek immediate medical attention.
- **Inhalation**: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if you feel unwell.
- **Ingestion**: If swallowed call a poison center if you feel unwell. Rinse mouth. Do NOT induce vomiting by use of emetics. Seek medical attention.

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

- ***Acute effects:***
  Inhalation results in drowsiness, cough, nausea and headache. Skin exposure can lead to dry skin. Eye exposure can lead to redness and possible irritation.
- ***Chronic effects:***
  After skin contact: Degreasing effect on the skin possibly followed by secondary inflammation. After long-term exposure to the chemical: Sensitization with allergic manifestations have been reported.

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

- Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURE

5.1. Extinguishing media

- *Appropriate extinguishing media*: Dry chemical powder, carbon dioxide and alcohol resistant foam. Avoid using water. In very large fires one may use water spray, fog or alcohol-resistant foam by directing streams to the periphery of the fires to prevent spread.

5.2. Special hazards arising from the substance

- Flashback along vapor trail may occur. Closed container exposed to heat may explode. Contact with strong oxidizer may cause fire.

5.3. Advice for firefighters

- Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep the containers cool by spraying water if exposed to heat or fire. Move containers out of hazard area if safe to do so.

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Always stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate.
- Avoid breathing vapors and contact with skin and eyes.
- Shut off leak source if possible.
- Shut off all possible sources of ignition.
- Wipe up.
- Decontaminate all equipment.
- Use non-sparking tools.

For emergency personnel

- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate.
- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off all possible sources of ignition and increase ventilation.
- Stop leaks if possible.
- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapors and contact with skin and eyes.

6.2. Environmental precautions

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Inform authorities in event of contamination of any public sewers, drains or water bodies.
- Wipe up.
- Prevent, by any means available, spillage from entering drains or water and watercourses.
- Collect recoverable product into labeled containers for recycling, recovery or disposal.
- Contain spill with sand, earth or vermiculite.
- Spread area with lime or absorbent material, and leave for at least 1 hour before washing.

6.3. Methods and material for containment and cleaning up

6.3.1: Containment of the spill.

(a) Bunding, covering of drains.
(b)Capping procedure.

- Clean up all tools and equipment.
- Decontaminate all equipment.

6.3.2 Cleanup procedure (Any of the following)

(a)Neutralization techniques;
(b) Decontamination techniques;
(c)Adsorbent material;
(d)Cleaning Techniques;
(e) Vacuuming techniques;
(f) Equipment required for containment/Cleanup(include the use of non-sparking tools and equipment where applicable)

6.4. Reference to other sections.

- Refer to section 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Do not breathe vapor or mist.
- Wear protective gloves/clothing and eye/face protection.
- Wash thoroughly after handling.
- Ground and secure containers when dispensing or pouring product.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Launder contaminated clothing before re-use.
- If on skin or hair, IMMEDIATELY remove all contaminated clothing and rinse/shower with plenty of water.

- Use in a well-ventilated place/Use protective clothing commensurate with exposure levels.

7.2. Conditions for safe storage, including any incompatibilities

- Store at ambient temperature in a dry and well ventilated place.
- Store away from incompatible materials.
- Keep container tightly closed.
- Keep securely closed when not in use.

7.3. Specific end use(s)

- Industrial formulation of ethyl acetate and its mixture
- Industrial use as an extraction solvent and/or processing aid
- Industrial Application of Paints, Coatings and other Mixtures containing Ethyl Acetate by way of Spraying
- Industrial Application of Paints and Coatings \(non-spray application)
- Industrial and Professional (end) use of ethyl acetate as a laboratory reagent

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

8.1.1 Exposure Limits Values

- NIOSH REL: TWA 400 ppm (1400 mg/m3)
- OSHA PEL: TWA 400 ppm (1400 mg/m3)
- ACGIH 1997: TLV: 400 ppm; 1440 mg/m3
- IDLH:2000 ppm
- OEL-AUSTRALIA: TWA 400 ppm (1400 mg/m3)
- OEL-THE PHILIPPINES: TWA 400 ppm (1400mg/m3)
- NDS –POLAND: 200 mg/m3

8.1.2 DNELS/ PNEC

PNEC	**Water (Freshwater)**	**Sediment (Freshwater)**	**Soil**	**Sewage treatment plant**
	0.26 mg /L.	1.25mg/kg sediment dry wt.	0.24 mg/kg soil dw	650 mg/L
DNEL	**Dermal**		**Inhalation**	**Oral**
Workers	63 mg/kg bw/day		734 mg/m³	
General Population	37 mg/kg bw/d		734 mg/m3	4.5 mg/kg bw/d

8.2. Exposure controls

8.2.1 Appropriate Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. Local ventilation is usually preferred. Ensure that eyewash stations and safety showers are close to the workstation location.

8.2.2 Personal Protection

- Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.
- **Eyes**: Safety goggles/ Chemical Safety glasses and Face shield.
- **Hands**: Wear appropriate protective gloves to prevent skin exposure.
- **Clothing**: Boots and clothing to prevent contact.
- **Respirator**: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

- **Information on basic physical and chemical properties.**

Sr.No.	Parameter	Typical value
1.	Appearance	Colourless liquid
2.	Odor	Ether like fruity odour
3.	Odor Threshold	0.96 - 176.9 ppm
4.	pH	Not available
5.	Melting point/Freezing point	(-) 84°C (Melting point)
6.	Boiling point	77.15 °C
7.	Flash point	(-) 4.4 °C, closed cup
8.	Evaporation rate (n-BuAc=1)	4.2
9.	Flammability (Solid,gas)	Flammable Liquid
10.	Upper/lower flammability or Explosive limits	2.1%-11.5%(Explosive limit) **UEL:** 11.5 %v/v**; LEL:** 2.2%v/v;

11.	Vapor pressure	124.79 hPa at 20 °C
12.	Vapor density (air=1)	Not available
13.	Relative density	0.902@ 20 °C
14.	Solubility	83g/l at 20°C; 80g/l at 25°C
15.	Log Pow, partition coefficient(Octonol/water)	0.68 at 25 °C
16.	Auto-ignition temperature	427°C
17.	Decomposition temperature	Not available
18.	Viscosity	0.45 mPa · s (dynamic) @25 °C
19.	Explosive property	No
20.	Oxidizing property	No

9.2. Other information.

- Specific gravity(Water=1) is 0.902; Koc is 8.8; Corrosive Material= No ; Molecular weight 88.11

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

- Ethyl acetate can be hydrolyzed in acidic or basic conditions to regain acetic acid and ethanol. The use of an acid catalyst accelerates the hydrolysis, ethyl esters are typically hydrolyzed in a two-step process starting with a stoichiometric amount of strong base, such as sodium hydroxide.

10.2. Chemical stability

- Stable under normal temperature and pressure. Heat will contribute to instability.

10.3. Possibility of hazardous reactions

- Hazardous Polymerization: Not reported

10.4. Conditions to avoid

- Avoid heat, flame and other sources of ignition. Contact with nitrates, strong oxidizers, strong alkalis, or strong acids may cause fire and explosions. Will attack some forms of plastic, rubber, and coatings.

10.5. Incompatible materials

- Strong acids, strong oxidizing agents and strong bases.

10.6. Hazardous decomposition products

- Thermal decomposition may produce carbon monoxide, carbon dioxide, acetic acid, and ethyl alcohol.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

- ***Acute toxicity***

RTECS#: ***AH5425000***
ACUTE ORAL LD50 (Rat) = 5620 mg/kg
ACUTE DERMAL LD50: (**Rabbit)** = > 20 g/kg
ACUTE INHALATION LC50: = 200000 mg/m3

a) Skin corrosion/irritation
Method: Rabbit (New Zealand): Slightly irritating
Reference: Friend, DR, Phillips, SJ, Hills, JR (1991)

b) Serious eye damage/irritation
Method: Rabbit (New Zealand): Not irritating
Reference: ECETOC, Brussels (1998)

Summary of irritation: In a briefly reported study carried out to a US Federal Register protocol, rabbits were dermally exposed to ethyl acetate under semi-occlusive conditions for a period of 4 hours. No signs of any irritation were observed during the 72 hour observation period after the exposure. Under the conditions of this study, ethyl acetate was clearly not a skin irritant
Ethyl acetate vapor is a weak sensory irritant at high concentrations. Liquid ethyl acetate is mildly irritating to the eye and is not a skin irritant.

c) Sensitization
Skin
Method: Guinea Pig
Result: Not sensitizing
Reference: Murmann P (1988)
Respiratory system: No data available

Summary: The skin sensitization has been evaluated in humans using patch tests, although the original publications of these studies are not available. Ethyl acetate was tested at 10% in petrolatum on the skin of 25 volunteers. No sensitization reactions occurred.
There is no data available on respiratory sensitizing properties. Ethyl acetate does not have any functional groups or structures that are associated with respiratory sensitization.

d) Germ cell mutagenicity

Method: bacterial reverse mutation assay (e.g. Ames test) (gene mutation) S. typhimurium TA 1535, TA 1537, TA 98 and TA 100 (met. act: with and without)

Result: negative

Reference: Zeiger, E., Anderson, B., Haworth, S., Lawlor, T., and Mortelmans, K. (1992)

Summary: There is clear evidence to indicate that ethyl acetate is not mutagenic in vitro bacterial or yeast test systems with or without metabolic activation and no evidence for mutagenicity results from in vivo assays.

e) Carcinogenicity

Method	Result	Reference
mouse (A/He) male/female (intraperitoneal) 150 mg/kg bw/injection (total dose: 3600 mg/kg bw) and 750 mg/kgbw/injection (total dose: 18000 mg/kg bw) Exposure: 8 w (3 times/week) Mouse Pulmonary Tumour Test according to method of Andervant	Ethyl acetate did not produce an increase in mouse lung tumours compared with controls:	Stoner GD; Shimkin MB; Kniazeff AJ; Weisburger JH; Weisburger EK; Bori GB. (1973)

Summary: The potential for ethyl acetate to induce lung tumors in a mouse pulmonary tumor model was evaluated by Stoner (1973). A/He Mice received intraperitoneal injections of 150mg/kg or 750mg/kg three times weekly for eight weeks. The animals were sacrificed 24 weeks after the 1st injections and the lungs examined for lesions. Ethyl acetate did not produce an increase in mouse lung tumours compared with controls.

f) Reproductive toxicity

Method	Result	Reference
mouse (CD-1) male/female two-generation study oral: drinking water 5, 10 and 15% v/v in water (analytical conc.) 0.0 6900, 13800, and 20700 mg/kg/day. (actual ingested (based on water consumption values)) Exposure: Exposure period: 18 weeks Premating exposure period (males): Parental 7 days; F1 74 days Premating exposure period (females): Parental 7 days; F1 74 days (ad libitum)	NOAEL (P): 20700 mg/kg bw/day (actual dose received) (male/female) (No effects observed in parameters studied at all doses. Result for ethanol. Equivalent to 39600mg/kg/day for ethyl acetate on a molar basis.)	George, J., Myers, C., Reel, J. et al. (1985)

Summary: The evidence suggests that the potential for ethyl acetate to cause fertility effects is low. A two generation study on the surrogate substance shows no effects with oral doses up to 13800mg/kg/day for ethanol (equivalent to 26400mg/kg/day ethyl acetate). By inhalation, ethyl acetate itself produced no effects at exposures of 6000ppm (22mg/l). Effects were reported following acute exposures to 16000ppm ethyl acetate.

g) **STOT-single exposure :** No data available

h) STOT- repeated exposure: No data available

i) Aspiration Hazards: Not expected

11.2 Other Information

ACUTE EFFECTS

- It is irritating to mucous surfaces, particularly the eyes, gums and respiratory passages. It is moderately toxic by intraperitoneal and subcutaneous routes. Skin exposure can lead to dry skin. Vapors may cause drowsiness or dizziness. Not considered as dangerous to the environment.

CHRONIC EFFECTS:

- After skin contact: Degreasing effect on the skin possibly followed by secondary inflammation.

After long-term exposure to the chemical: Sensitization with allergic manifestations has been reported.

- **Target Organs**: Eyes, skin, respiratory system, CNS, liver and blood.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

- Aquatic LC50 (48h) Leuciscus idus melanotus (fish, fresh water) = 270-333 mg/L
- Aquatic LC50 (96h) Pimephales promelas (fish, fresh water) = 230 mg/L
- Aquatic EC50 (24h) Artemia Salina (Crustacea) = 644.8 mg/L
- Aquatic EC50 (48h) Daphnia Cucullata (Crustacea) = 164mg/L
- Aquatic EC50 (48h) Scenedesmus subspicatus (Algae) = 3300mg/L
- Aquatic EC50 (15min) Photobacterium Phosphoreum (Bacteria) = 5870mg/L

Chronic Toxicity to Fish:

Aquatic LOEC (32days) Pimephales Promelas(fish, fresh water) = 9.65mg/L

12.2. Persistence and degradability

- It undergoes rapid biodegradation. Substance is biodegradable with low possibility of bioaccumulation.

12.3. Bioaccumulative potential

- Log Pow =0.68. This chemical is not likely to bio concentrate.

12.4. Mobility in soil

- Koc=8.8. If released on land, Ethyl acetate will be lost by evaporation and leaching into groundwater. Biodegradation should also occur. It is very soluble in water and is not expected to absorb significantly to soil.
- Because of its high vapor pressure and low adsorption to soil, ethyl acetate would be expected to volatilize rapidly from soil and other surfaces.
- Solubility In Water: 83g/l at 200 C. This product is lighter than water and will float on the surface. The product is poorly absorbed onto soils or sediments.
- Henry's Law constant: 1.5 10E-4 atm-m3/mole

12.5. Results of PBT and vPvB assessment

- The substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII.

12.6. Other adverse effects.

- No data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- US EPA Waste Number: U112 (Ignitable waste, USA)
- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- Exert extra care in igniting, as this material is highly flammable.
- Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

- This substance is considered to be hazardous for transport by Air/Rail/Road and Sea and thus regulated by IMO/ IMDG/ IATA/ ICAO.

S.No	Agency	14.1 UN Number	14.2 Proper Shipping name	14.3 Hazard Class	14.4 Packing Group
Land Transport	US DOT	UN 1173	ETHYL ACETATE	**3** Flammable liquid.	**II**
Maritime Transport	IMDG	UN 1173	ETHYL ACETATE	**3** Flammable liquid.	**II**
Air Transport	IATA	UN 1173	Ethyl acetate	**3** Flammable liquid.	**II**
Hazard Label		**Flammable liquid**			

14.5. Environmental hazards

- The substance is not environmentally hazardous according to the criteria of the UN Model Regulations (As reflected in the IMDG Code, ADR, RID and ADN and/or a marine pollutant according to the IMDG code).

SECTION 15: REGULATORY INFORMATION

- **European Union Information**

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

- European/International Regulations

Classification (as per Regulation (EC) No 1272/2008):

- **Hazards Class and Category**: Flammable Liquid Cat.2, Eye irritation Cat.2; STOT single exposure Cat.3
- **Hazard Statements:** H225; H319; H336

US information

Chemical Inventory Lists:	Status

TSCA:	**Listed**
EC Inventory	**Listed**
Canada(DSL/NDSL):	**Listed (DSL)**
Taiwan Chemical Substance Inventory (TCSI)	**Listed**
New Zealand Inventory of Chemicals (NZIoC)	**Listed**
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	**Listed**
Inventory of Existing and New Chemical Substances (ENCS)	**Listed**
Japan ISHL Existing Substances List (ISHL)	**Listed**
China: IECSC	**Listed**
China: Inventory of Hazardous Chemicals (2015)	**Listed**
Existing Chemicals List (KECI)	**Listed**
Australian Inventory of Chemical Substances (AICS)	**Listed**

US information

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):
Hazardous substance RQs: Ethyl acetate: 5000lbs
SARA 302/304 : Ethyl acetate not listed
SARA 311/312 : See section 2 for more information
California Prop. 65: Ethyl acetate not listed
CAA (Clean Air Act): Ethyl acetate not listed
CWA (Clean Water Act): Ethyl acetate not listed

EU Information
Water hazard class (WGK) 1, low hazard to waters
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006: Ethyl acetate not listed

Canada Regulatory Information
- WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR.

SECTION 16: OTHER INFORMATION

a) Compilation information of safet March 30, 2012y data sheet

Date of compilation	: March 30, 2012
Chemical	: Ethyl acetate
CAS #	: 141-78-6
File Name	: 0044Nr Ghs16 Div.1 sds Ethyl acetate
Revision Number	: 16
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b) A key or legend to aberrations and acronyms used in the safety data sheet

- PBT =Persistent Bio accumulative and Toxic
- vPvB= Very Persistent and Very Bio accumulative
- SCBA= Self Contained Breathing Apparatus
- NIOSH REL= National Institute for Occupational Safety and Health Recommended Exposure Limit
- RTECS= Registry of Toxic Effects of Chemical Substances
- NTP=National Toxicology Program
- IARC= International Agency for Research on Cancer
- EPA=Environmental Protection Agency
- TSCA= Toxic Substances Control Act

- NFPA= National Fire Protection Association
- CSR=Chemical Safety Report
- BCF = Bio Concentration Factor
- DNEL = Derived No Effect Level
- PNEC = Predicted No Effect Concentration
- TLV = Threshold Limit Value
- ACGIH = American Conference of Governmental Industrial Hygienist
- REACH = Registration, Evaluation, Authorization and Restriction of Chemicals
- CLP = Classification, Labelling and Packaging
- LD / LC = Lethal Doses / Lethal Concentration
- GHS = Globally Harmonized System
- ADR = Accord European relative au transport international de merchandises
- IMDG-Code = International Maritime Code for Dangerous Goods
- EmS = Emergency measures on Sea
- ICAO = International Civil Aviation Organization
- IATA/DGR= International Air Transport Association/Dangerous Goods Regulation

c) Key Literature reference and sources for data

- Hazardous Substance Data Bank
- RTECS
- IARC

(d) List of hazard statements

Hazards Statements	H225: Highly flammable liquid and vapor. H319: Causes serious eye irritation H336: May cause drowsiness or dizziness.

Biographical reference and data sources

- Globally Harmonized System of Classification and Labelling of Chemicals.
- CLP REG (regulation) (EC) no. 1272/2008, last modification by regulation (EC) no. 790/2009
- REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 878/2020
- SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

(End of Safety Data Sheet)