MSDS Number :1540C

RESEARCH-LAB FINE CHEM INDUSTRIES

An ISO 9001:2008 certified company

MATERIAL SAFETY DATA SHEET

Section 1 - Chemical Product and Company Identification

Product Name : TRIETHYL CITRATE

Synonyms: Ethyl citrate
CAS No.: 77-93-0
Molecular Weight: 276.29
Chemical Formula: $C_{12}H_{20}O_7$
Product Codes: 1540C

Brand : RESEARCH-LAB

Company Identification :-

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Section 2 - Composition, Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Triethyl Citrate	77-93-0	100%	No

Section 3 - Hazardous Identification

Classification of the substance or mixture
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Section 4 - First Aid Measures

4.1 Description of first aid measures
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration.
In case of skin contact
Wash off with soap and plenty of water.
In case of eye contact
Flush eyes with water as a precaution.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water.

Section 5 - Fire Fighting Measures

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
Carbon oxides
5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid breathing vapours, mist or gas.
6.2 Environmental precautions
No special environmental precautions required.
6.3 Methods and materials for containment and cleaning up
Keep in suitable, closed containers for disposal.

Section 7 - Handling and Storage

7.1 Precautions for safe handling
7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Storage class (TRGS 510): Combustible liquids

Section 8 - Exposure Controls, Personal Protection

8.1 Control parameters
Components with workplace control parameters
8.2 Exposure controls
Appropriate engineering controls
General industrial hygiene practice.
Personal protective equipment
Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Body Protection
impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory protection
Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure
No special environmental precautions required.

Section 9 - Physical and Chemical Properties

Appearance : Form: clear, liquid Colour: light yellow
Odour : No data available
Odour Threshold : No data available
pH : No data available
Melting point/freezing point : Melting point/range: < -39,99 °C - OECD Test Guideline 102
Initial boiling point and boiling range : 235 °C at 200 hPa - lit.
Flash point : 155 °C - closed cup
Evaporation rate : No data available
Flammability (solid, gas) : No data available
Upper/lower flammability or explosive limits : No data available
Vapour pressure : 1 hPa at 107 °C
Vapour density : 9,54 - (Air = 1.0)
Relative density : 1,14 g/cm3 at 25 °C
Water solubility : 58,1 g/l at 20 °C - OECD Test Guideline 105 - completely soluble
Partition coefficient: noctanol/water : log Pow: 1,17 at 40 °C
Auto-ignition temperature : 355 °C at 1.009 - 1.014 hPa
Decomposition temperature : No data available
Viscosity : 32,17 mm2/s at 20 °C -
Explosive properties : No data available
Oxidizing properties : No data available
Other safety information : Relative vapour density : 9,54 - (Air = 1.0)

Section 10 - Stability and Reactivity

10.1 Reactivity
No data available
10.2 Chemical stability
Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions
No data available
10.4 Conditions to avoid
No data available
10.5 Incompatible materials
Strong oxidizing agents
10.6 Hazardous decomposition products
Other decomposition products - No data available

Section 11 - Toxicological Information

Information on toxicological effects
Acute toxicity
LD50 Oral - Rat - 5.900 mg/kg
Remarks: Behavioral:Altered sleep time (including change in righting reflex). Respiratory disorder Nutritional and Gross Metabolic:Changes in:Body temperature decrease.
LC50 Inhalation - Rat - 6 h - 1300 ppm
Remarks: Lungs, Thorax, or Respiration:Acute pulmonary edema. Lungs, Thorax, or Respiration:Pleural effusion. Lungs, Thorax, or Respiration:Dyspnea.
LD50 Dermal - Rabbit - > 5.000 mg/kg
Skin corrosion/irritation
No data available
Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available
Germ cell mutagenicity
No data available
Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity
No data available
Specific target organ toxicity - single exposure
No data available
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data available
Additional Information
RTECS: GE8050000
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12 - Ecological Information

12.1 Toxicity
Toxicity to daphnia and
other aquatic
invertebrates
Immobilization EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h
Toxicity to algae Growth inhibition EC50 - Pseudokirchneriella subcapitata (green algae) - > 100 mg/l - 72 h
(OECD Test Guideline 201)
12.2 Persistence and degradability
Biodegradability aerobic - Exposure time 28 d
Result: 77 % - Readily biodegradable
(OECD Test Guideline 301F)
12.3 Bioaccumulative potential
No data available
12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6 Other adverse effects
No data available

Section 13 - Disposal Considerations

Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

Section 14 - Transport Information

14.1 UN number
ADR/RID: - IMDG: - IATA: -
14.2 UN proper shipping name
ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods
14.3 Transport hazard class(es)
ADR/RID: - IMDG: - IATA: -
14.4 Packaging group
ADR/RID: - IMDG: - IATA: -
14.5 Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no
14.6 Special precautions for user
No data available

Section 15 - Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

Section 16 - Additional Information

Not Regulated