1. Identification of the substance/preparation and of the company/undertaking

Identification of the product:
Product code: TR105
Name of material: 2,2,4-Trimethylpentane

Use of the substance/preparation:
Analytical chemistry, solvent for fat and oil extractions; in determining octane numbers of fuels.

2. Hazards identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225
Aspiration hazard (Category 1), H304
Skin irritation (Category 2), H315
Specific target organ toxicity - single exposure (Category 3), H336
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H410

Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word: Danger

Hazard statement(s)
H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P331 Do NOT induce vomiting. P501 Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements - none

Other hazards - none

3. Composition/information on ingredients

Identification and amount of the components:
Synonyms: Isooctane. Isobutyltrimethylmethane
CAS: 540-84-1
Molecular weight: 114.26 g/mol
EC index no: 601-009-00-8
EC number: 208-759-1
Formula: C₈H₁₈

4. First aid measures

After inhalation: Fresh air. If necessary, apply mechanical ventilation or mouth-to-mouth resuscitation. Summon doctor.
After skin contact: Wash off with plenty of water. Remove contaminated clothing.
After ingestion: Plenty of water to drin. Avoid vomiting (risk of aspiration). Summon doctor.
After eye contact: Rinse out with plenty of water with the eyelid held wide open. Summon eye specialist.

5. Fire-fighting measures

Suitable extinguishing media: foam, CO2, powder.
Special risks: Combustible. Vapours heavier than air, Formation of exploisable mixtures possible with air, keep away from sources of ignition.
Special protective equipment for fire fighting: Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.
Further information: Cool container with spray water from a save distance. Take measures to prevent electrostatic charging. Prevent fire-fighting water from entering surface water or groundwater.

6. Accidental release measures

Person-related precautionary measures: Do not inhale vapours/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.
Environmental precautions: Do not allow to enter sewerage system (risk of explosion!).
Procedures for cleaning / absorption: Take up with liquid-absorbent material. Forward for disposal. Clean up.

7. Handling and storage

Storage: Tightly closed in a well-ventilated place, away from sources of ignition and heat. Store at +15°C to +25°C.

8. Exposure controls/personal protection

Exposure controls:
Occupational exposure controls: The personal protective equipment must be selected according to the working place, based on the concentration and amount of the dangerous substance. The supplier should indicate the stability of the personal protective equipment to chemical reagents.
Respiratory protection: When vapours/aerosols are generated.
Hand protection: Required
Eye protection: Required
Industrial hygiene: Change contaminated clothing. Application of skin-protective barrier cream recommended. Wash hands after working with substance.

9. Physical and chemical properties

General information:
Form: Liquid
Colour: Colourless
Odour: Benzine-like
Important health, safety and environmental information:
 pH value: ~ 7
Boiling temperature: 99 °C
Flash point: -12 °C
Explosion limits (low): 1 Vol%
Explosion limits (high): 6 Vol%
Vapour pressure: (20 °C) 51 hPa
Density (20 °C): 0.69 g/cm³
Solubility in water: (25 °C): 0.56 mg/l
Solubility in: organic solvents (20 °C): miscible ethanol: sparingly soluble
Partition coefficient n-octanol/water: log P (o/w): 4.5
Viscosity: (22 °C) 0.51 mPas
Refractive index: --
Melting temperature: -107 °C
Ignition temperature: 410 °C
10. Stability and reactivity

Conditions to be avoided: Heating
Substances to be avoided: Strong oxidizing agents.
Hazardous decomposition products: No information available.
Further information: Highly flammable.

Unsuitable working materials: various plastics, Explosible with air in a vaporous/gaseous state.

11. Toxicological information

Acute toxicity:
LD50 (oral, rat): > 2000 mg/kg
LC50 (inhalation, rat): > 24.2 mg/l /4h.

Further toxicological information:
After inhalation: Mucosal irritations, absorption.
After skin contact: Irritations; degreasing effect on the skin, possibly followed by secondary inflammation.
After eye contact: Irritations
After ingestion: Absorption. Damage of lungs.
After absorption of large quantities: Drowsiness, drowsiness, narcosis.

Further information:
The following applies to aliphatic hydrocarbons (6-18 C) in general: Inhalation may lead to the formation of oedemas in the respiratory tract.
After long-term exposure to the chemical: CNS disorders, paralysis symptoms.
The product should be handled with the care usual when dealing with chemicals.

12. Ecological information

Ecotoxic effects: Very toxic to aquatic organisms. may cause long-term adverse effects in the aquatic environment. The literature data available to us do not conform with the labelling prescribed by the EC. The EU has dossiers which have not been published.

Fish toxicity: L.idus LC0: 500 mg/l /48h.
Bacterial toxicity: Ps. putida EC0: 10000 mg/l.
Mobility: log P (o/w): 4.5
Bioaccumulative potential: Bioaccumulation Bioconcentration factor: 372

Further ecologic data:
Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities. Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Product: There are no uniform EU Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EU member countries through corresponding laws and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.

Packaging: Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

14. Transport information

Road transport:
ADR class: 3 Fl II
Correct technical name: OCTANES

Sea transport:
UN-No: 1262
IMDG class: 3 II
Correct technical name: OCTANES

Air transport:
UN-No: 1262
IATA/ICAO class: 3 II
16. Other information

Reason for the revision: General update.
Date: 9/7/2014

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