

**SAFETY DATA SHEET**

M1154401000

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 07/20/2018

Version 1.4

**SECTION 1. Identification****Product identifier**

|                |   |
|----------------|---|
| Product number | 115440  |
| Product name   | Isooctane for gas chromatography ECD and FID SupraSolv® |
| CAS-No.        | 540-84-1  |

**Relevant identified uses of the substance or mixture and uses advised against**

|                 |                      |
|-----------------|----------------------|
| Identified uses | Reagent for analysis |
|-----------------|----------------------|

**Details of the supplier of the safety data sheet**

|         |   |
|---------|---|
| Company | EMD Millipore Corporation   400 Summit Drive   Burlington  <br>Massachusetts 01803   United States of America   General Inquiries:<br>+1 800-645-5476   Monday to Friday, 9:00 AM to 4:00 PM Eastern<br>Time (GMT-5)<br>MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany. |
|---------|---|

|                            |  |
|----------------------------|--|
| <b>Emergency telephone</b> | 800-424-9300 CHEMTREC (USA)<br>+1-703-527-3887 CHEMTREC (International)<br>24 Hours/day; 7 Days/week |
|----------------------------|--|

**SECTION 2. Hazards identification****GHS Classification**

Flammable liquid, Category 2, H225  
Skin irritation, Category 2, H315  
Specific target organ systemic toxicity - single exposure, Category 3, Central nervous system, H336  
Aspiration hazard, Category 1, H304

For the full text of the H-Statements mentioned in this Section, see Section 16.

**GHS-Labeling***Hazard pictograms**Signal Word*

Danger

*Hazard Statements*

H225 Highly flammable liquid and vapor.  
H304 May be fatal if swallowed and enters airways.

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H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

### *Precautionary Statements*

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

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.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER/doctor if you feel unwell.

P321 Specific treatment (see supplemental first aid instructions on this label).

P331 Do NOT induce vomiting.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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 an approved waste disposal plant.

### **Other hazards**

None known.

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### **SECTION 3. Composition/information on ingredients**

Formula

$\text{CH}_3\text{C}(\text{CH}_3)_2\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_3$

$\text{C}_8\text{H}_{18}$  (Hill)

Molar mass

114.23 g/mol

### **Hazardous ingredients**

*Chemical name (Concentration)*

CAS-No.

*isooctane (>= 90 % - <= 100 %)*

540-84-1

Exact percentages are being withheld as a trade secret.

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### **SECTION 4. First aid measures**

#### **Description of first-aid measures**

*Inhalation*

After inhalation: fresh air. Call in physician.

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### *Skin contact*

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

### *Eye contact*

After eye contact: rinse out with plenty of water. Remove contact lenses.

### *Ingestion*

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Call a physician immediately. Pulmonary failure possible after aspiration of vomit.

Never give anything by mouth to an unconscious person.

### **Most important symptoms and effects, both acute and delayed**

irritant effects, Drowsiness, somnolence

It generally applies for aliphatic hydrocarbons with 6 - 18 carbon atoms that they may cause pneumonia, in some cases also pulmonary oedema, upon direct inhalation, i.e. in conditions that can occur only in very special circumstances (nebulizations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis.

### **Indication of any immediate medical attention and special treatment needed**

No information available.

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## **SECTION 5. Fire-fighting measures**

### **Extinguishing media**

#### *Suitable extinguishing media*

Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### **Special hazards arising from the substance or mixture**

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

Development of hazardous combustion gases or vapors possible in the event of fire.

### **Advice for firefighters**

#### *Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact.

Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

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Advice for emergency responders:

Protective equipment see section 8.

## Environmental precautions

Do not let product enter drains. Risk of explosion.

## Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Store at +5°C to +30°C (+41°F to +86°F).

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### *Ingredients*

| Basis                             | Value   | Threshold limits                   | Remarks                            |
|-----------------------------------|---|------------------------------------|------------------------------------|
| <i>isooctane 540-84-1</i>         |   |                                    |                                    |
| ACGIH                             | Time Weighted Average (TWA):                        | 300 ppm                            |                                    |
| NIOSH/GUIDE                       | Recommended exposure limit (REL):                   | 75 ppm<br>350 mg/m <sup>3</sup>    |                                    |
|                                   | Ceiling Limit Value and Time Period (if specified): | 385 ppm<br>1,800 mg/m <sup>3</sup> | Ceiling Limit Value 15-min         |
| OSHA_TRANS                        | PEL:  | 500 ppm<br>2,350 mg/m <sup>3</sup> |                                    |
|                                   | Z1A   | Time Weighted Average (TWA):       | 300 ppm<br>1,450 mg/m <sup>3</sup> |
| Short Term Exposure Limit (STEL): |   | 375 ppm<br>1,800 mg/m <sup>3</sup> |                                    |
| ACGIH                             | Time Weighted Average (TWA):                        | 300 ppm                            |                                    |

### Engineering measures

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Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### **Individual protection measures**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

#### *Hygiene measures*

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

full contact:

|                     |                |
|---------------------|----------------|
| Glove material:     | Nitrile rubber |
| Glove thickness:    | 0.40 mm        |
| Break through time: | > 480 min      |

splash contact:

|                     |                 |
|---------------------|-----------------|
| Glove material:     | polychloroprene |
| Glove thickness:    | 0.65 mm         |
| Break through time: | > 120 min       |

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 730 Camatril® -Velours (full contact), KCL 720 Camapren® (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### *Other protective equipment:*

Flame retardant antistatic protective clothing.

#### *Respiratory protection*

required when vapors/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapors of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are performed according to the instructions of the producer. These measures have to be properly documented.

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## **SECTION 9. Physical and chemical properties**

|                |                           |
|----------------|---------------------------|
| Physical state | liquid                    |
| Color          | colorless                 |
| Odor           | benzine-like              |
| Odor Threshold | No information available. |

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|  |  |
|--|--|
| pH                                     | neutral  |
| Melting point                          | -161 °F (-107 °C)  |
| Boiling point/boiling range            | 210 °F (99 °C)<br>at 1,013 hPa                             |
| Flash point                            | 10 °F (-12 °C)<br>Method: c.c.                             |
| Evaporation rate                       | No information available.                                  |
| Flammability (solid, gas)              | No information available.                                  |
| Lower explosion limit                  | 1 %(V)   |
| Upper explosion limit                  | 6 %(V)   |
| Vapor pressure                         | 51 hPa<br>at 68 °F (20 °C)                                 |
| Relative vapor density                 | 3.9  |
| Density                                | 0.69 g/cm <sup>3</sup><br>at 68 °F (20 °C)                 |
| Relative density                       | No information available.                                  |
| Water solubility                       | 0.56 mg/l<br>at 77 °F (25 °C)                              |
| Partition coefficient: n-octanol/water | log Pow: 4.09<br>(calculated)<br>Potential bioaccumulation |
| Autoignition temperature               | No information available.                                  |
| Decomposition temperature              | No information available.                                  |
| Viscosity, dynamic                     | 0.50 mPa.s<br>at 68 °F (20 °C)                             |
| Explosive properties                   | Not classified as explosive.                               |
| Oxidizing properties                   | none   |
| Ignition temperature                   | 770 °F (410 °C)  |
| Saturated vapor concentration          | 239 g/m <sup>3</sup><br>at 68 °F (20 °C)                   |

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## SECTION 10. Stability and reactivity

### Reactivity

Vapors may form explosive mixture with air.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Violent reactions possible with:

Strong oxidizing agents

### Conditions to avoid

Warming.

### Incompatible materials

various plastics

### Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Inhalation, Eye contact, Skin contact

#### *Acute oral toxicity*

LD50 Rat: > 2,500 mg/kg (IUCLID)

#### *Acute inhalation toxicity*

LC50 Rat: 37.5 mg/l; 4 h  
(IUCLID)

Symptoms: mucosal irritations

#### *Skin irritation*

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Causes skin irritation.

#### *Eye irritation*

Possible damages:

slight irritation

#### *Genotoxicity in vitro*

Mutagenicity (mammal cell test):

Result: negative

(IUCLID)

*Specific target organ systemic toxicity - single exposure*

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May cause drowsiness or dizziness.

Target Organs: Central nervous system

*Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

*Aspiration hazard*

Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

## Carcinogenicity

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## Further information

It generally applies for aliphatic hydrocarbons with 6 - 18 carbon atoms that they may cause pneumonia, in some cases also pulmonary oedema, upon direct inhalation, i.e. in conditions that can occur only in very special circumstances (nebulizations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### Ecotoxicity

*Toxicity to fish*

LC0 Leuciscus idus (Golden orfe): 500 mg/l; 48 h (External MSDS)

*Toxicity to bacteria*

EC0 Pseudomonas putida: 10,000 mg/l(IUCLID)

### Persistence and degradability

No information available.

### Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: 4.09

(calculated)

Potential bioaccumulation

### Mobility in soil

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### *Distribution among environmental compartments*

log K<sub>oc</sub>: 4.35

(HSDB) High mobility of the substance in soil is not expected (log K<sub>oc</sub> ≥ 3).

### **Other adverse effects**

#### *Henry constant*

305000 Pa·m<sup>3</sup>/mol

(HSDB) Distribution preferentially in air.

### *Additional ecological information*

Biological effects:

Endangers drinking-water supplies if allowed to enter soil and/or waters in large quantities.

Discharge into the environment must be avoided.

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## **SECTION 13. Disposal considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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## **SECTION 14. Transport information**

### **Land transport (DOT)**

|                                  |         |
|----------------------------------|---------|
| <b>UN number</b>                 | UN 1262 |
| <b>Proper shipping name</b>      | OCTANES |
| <b>Class</b>                     | 3       |
| <b>Packing group</b>             | II      |
| <b>Environmentally hazardous</b> | --      |

### **Air transport (IATA)**

|                                     |         |
|-------------------------------------|---------|
| <b>UN number</b>                    | UN 1262 |
| <b>Proper shipping name</b>         | OCTANES |
| <b>Class</b>                        | 3       |
| <b>Packing group</b>                | II      |
| <b>Environmentally hazardous</b>    | --      |
| <b>Special precautions for user</b> | no      |

### **Sea transport (IMDG)**

|                                     |         |
|-------------------------------------|---------|
| <b>UN number</b>                    | UN 1262 |
| <b>Proper shipping name</b>         | OCTANES |
| <b>Class</b>                        | 3       |
| <b>Packing group</b>                | II      |
| <b>Environmentally hazardous</b>    | --      |
| <b>Special precautions for user</b> | yes     |
| <b>EmS</b>                          | F-E S-E |

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**SECTION 15. Regulatory information**

**United States of America**

**SARA 313**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 302**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

**DEA List I**

Not listed

**DEA List II**

Not listed

**US State Regulations**

**Massachusetts Right To Know**

*Ingredients*

isooctane

**Pennsylvania Right To Know**

*Ingredients*

isooctane

**New Jersey Right To Know**

*Ingredients*

isooctane

**California Prop 65 Components**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

**Notification status**

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL

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**SECTION 16. Other information**

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## Training advice

Provide adequate information, instruction and training for operators.

## Labeling

*Hazard pictograms*



## Signal Word

Danger

## Hazard Statements

H225 Highly flammable liquid and vapor.

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 Statements

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P240 Ground/bond container and receiving equipment.

P273 Avoid release to the environment.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P313 Get medical advice/ attention.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

## Full text of H-Statements referred to under sections 2 and 3.

|      |   |
|------|---|
| H225 | Highly flammable liquid and vapor.            |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation.                       |
| H336 | May cause drowsiness or dizziness.            |

## Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 07/20/2018

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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