



# Safety Data Sheet (SDS)

Printing date 11/25/2015

Reviewed on 11/25/2015

## 1 Identification

- **Product identifier**
- **Trade name:** Jungle Formula Insect Repellent EPA Reg. No. 51147-13-13283
- **Article number:** 4501
- **Recommended use and restriction on use** **Date of Issue:** November 25, 2015
- **Recommended use:** Insect repellent **Replaces SDS Dated:** April 22, 2013
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
Rainbow Technology Corp  
261 Cahaba Valley Pkwy  
Pelham, AL 35124
- Toll Free: 1.800.637.6047  
Local: 1.205.733.0333
- **Emergency telephone number:**  
ChemTel Inc.  
+1 (800)255-3924, +1 (813)248-0585

## 2 Hazard(s) identification

**HMIS CODES:** FIRE: 4 HEALTH: 1 REACTIVITY: 1

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Aerosol 1 H222 Extremely flammable aerosol.



GHS04 Gas cylinder

Press. Gas H280 Contains gas under pressure; may explode if heated.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2A H319 Causes serious eye irritation.  
STOT SE 3 H336 May cause drowsiness or dizziness.

- **Additional information:**

There are no other hazards not otherwise classified that have been identified.  
0 % of the mixture consists of component(s) of unknown toxicity.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms:**



GHS02 GHS04 GHS07

· **Signal word:** Danger

· **Hazard-determining components of labeling:**

propan-2-ol

· **Hazard statements:**

- H222 Extremely flammable aerosol.
- H280 Contains gas under pressure; may explode if heated.
- H332 Harmful if inhaled.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

· **Precautionary statements:**

- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P251 Do not pierce or burn, even after use.
- P211 Do not spray on an open flame or other ignition source.
- P261 Avoid breathing mist, vapors, or spray.
- P264 Wash thoroughly after handling.
- P280 Wear eye protection.
- P271 Use only outdoors or in a well-ventilated area.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P312 Call a POISON CENTER/doctor if you feel unwell.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P405 Store locked up.
- P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

67-63-0	propan-2-ol ⚠ Flam. Liq. 2, H225 ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	20-40%
134-62-3	N,N-diethyl-m-toluamide ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	20-40%

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68476-85-7	Petroleum gases, liquefied ⚠ Flam. Gas 1, H220 ⚠ Press. Gas, H280	20-40%
113-48-4	N-(2-ethylhexyl)-8,9,10-trinorborn-5-ene-2,3-dicarboximide ⚠ Acute Tox. 3, H311	2.5-5.0%

**Additional information:**

For the listed ingredient(s), the identity and exact percentage(s) are being withheld as a trade secret.

## 4 First-aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Take affected persons out into the fresh air.

· **After inhalation:**

Supply fresh air; consult doctor in case of complaints.

Provide oxygen treatment if affected person has difficulty breathing.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After skin contact:**

Product is manufactured for topical use. If irritation occurs, discontinue use and wash affected area with soap and water.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

Unlikely route of exposure.

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

· **Information for doctor**

· **Most important symptoms and effects, both acute and delayed:**

Headache

Breathing difficulty

Dizziness

Coughing

Irritant to skin and mucous membranes.

Irritant to eyes.

Nausea in case of ingestion.

Gastric or intestinal disorders when ingested.

· **Danger:** Harmful if inhaled.

· **Indication of any immediate medical attention and special treatment needed:**

If necessary oxygen respiration treatment.

Treat frost-bitten areas appropriately.

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## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
  - Alcohol resistant foam
  - Water fog / haze
  - Carbon dioxide
  - Fire-extinguishing powder
- **For safety reasons unsuitable extinguishing agents:** Water stream.
- **Special hazards arising from the substance or mixture**
  - Formation of toxic gases is possible during heating or in case of fire.
  - Danger of receptacles bursting because of high vapor pressure if heated.
- **Advice for firefighters**
- **Protective equipment:**
  - Wear self-contained respiratory protective device.
  - Do not inhale explosion gases or combustion gases.
  - Wear fully protective suit.
- **Additional information:**
  - Eliminate all ignition sources if safe to do so.
  - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
  - Cool endangered receptacles with water fog.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:**
  - Use respiratory protective device against the effects of fumes/dust/aerosol.
  - Wear protective equipment. Keep unprotected persons away.
  - Ensure adequate ventilation.
  - Keep away from ignition sources.
  - Protect from heat.
  - Particular danger of slipping on leaked/spilled product.
- **Environmental precautions:**
  - Do not allow to enter sewers/ surface or ground water.
  - Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
  - Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).
  - Remove from the water surface (e.g. skim or suck off).
  - Dispose contaminated material as waste according to item 13.
  - Send for recovery or disposal in suitable receptacles.
- **Reference to other sections:**
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

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## 7 Handling and storage

- **Handling**
- **Precautions for safe handling:**  
Avoid splashes or spray in enclosed areas.  
Use only in well ventilated areas.  
Keep away from heat and direct sunlight.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 120 °F / 49 °C, i.e. electric lights. Do not pierce or burn, even after use.  
Do not spray on a naked flame or any incandescent material.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**  
Observe official regulations on storing packagings with pressurized containers.  
Provide ventilation for receptacles.  
Avoid storage near extreme heat, ignition sources or open flame.
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Store away from oxidizing agents.
- **Further information about storage conditions:**  
Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.
- **Specific end use(s):** No relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**67-63-0 propan-2-ol**

PEL (USA)	Long-term value: 980 mg/m <sup>3</sup> , 400 ppm
REL (USA)	Short-term value: 1225 mg/m <sup>3</sup> , 500 ppm Long-term value: 980 mg/m <sup>3</sup> , 400 ppm
TLV (USA)	Short-term value: 984 mg/m <sup>3</sup> , 400 ppm Long-term value: 492 mg/m <sup>3</sup> , 200 ppm BEI
EL (Canada)	Short-term value: 400 ppm Long-term value: 200 ppm
EV (Canada)	Short-term value: 400 ppm Long-term value: 200 ppm
LMPE (Mexico)	Short-term value: 400 ppm Long-term value: 200 ppm A4, IBE

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**68476-85-7 Petroleum gases, liquefied**

PEL (USA)	Long-term value: 1800 mg/m <sup>3</sup> , 1000 ppm
REL (USA)	Long-term value: 1800 mg/m <sup>3</sup> , 1000 ppm
TLV (USA)	refer to Appendix F in TLVs and BEIs book
EL (Canada)	Short-term value: 1250 ppm Long-term value: 1000 ppm
EV (Canada)	Long-term value: 1,000 ppm
LMPE (Mexico)	Long-term value: 1000 ppm

**· Ingredients with biological limit values:**

**67-63-0 propan-2-ol**

BEI (USA)	40 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Acetone (background, nonspecific)
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**· Exposure controls**

**· Personal protective equipment:**

**· General protective and hygienic measures:**

- The usual precautionary measures for handling chemicals should be followed.
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Do not inhale gases / fumes / aerosols.
- Avoid contact with the eyes.
- Avoid close or long term contact with the skin.

**· Engineering controls:** No relevant information available.

**· Breathing equipment:**

- Not required under normal conditions of use.
- Use suitable respiratory protective device in case of insufficient ventilation.
- For spills, respiratory protection may be advisable.

**· Protection of hands:**

- Gloves are advised for repeated or prolonged contact.
- Protection may be required for spills.
- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

**· Eye protection:**



Safety glasses

**· Body protection:** Protective work clothing

**· Limitation and supervision of exposure into the environment** No relevant information available.

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## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General information**

· **Appearance:**

· **Form:** Aerosol

· **Color:** Colorless

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition:**

· **Melting point/Melting range:** Not applicable, as aerosol.

· **Boiling point/Boiling range:** Not applicable, as aerosol.

· **Flash point:** Extremely flammable aerosol.  
 Not applicable, as aerosol.

· **Flammability (solid, gaseous):** Not applicable.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not self-igniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

· **Lower:** Not determined.

· **Upper:** Not determined.

· **Oxidizing properties:** Not determined.

· **Vapor pressure:** Not determined.

· **Density at 20 °C (68 °F):** 0.88 g/cm<sup>3</sup> (7.344 lbs/gal)

· **Relative density:** Not determined.

· **Vapor density:** Not determined.

· **Evaporation rate:** Not applicable.

· **Solubility in / Miscibility with:**

· **Water:** Insoluble.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

· **Dynamic:** Not determined.

· **Kinematic:** Not determined.

· **Other information** No relevant information available.

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## 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
Keep away from heat and direct sunlight.  
Danger of receptacles bursting because of high vapor pressure if heated.
- **Possibility of hazardous reactions:**  
Develops readily flammable gases / fumes.  
Reacts violently with oxidizing agents.  
Reacts with strong acids and alkali.  
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomized.  
Toxic fumes may be released if heated above the decomposition point.  
Extremely flammable aerosol.
- **Conditions to avoid:**  
Excessive heat.  
Keep ignition sources away - Do not smoke.  
Store away from oxidizing agents.
- **Incompatible materials:** No relevant information available.
- **Hazardous decomposition products:**  
Carbon monoxide and carbon dioxide  
Hydrocarbons  
Nitrogen oxides (NOx)

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

### 134-62-3 N,N-diethyl-m-toluamide

Oral	LD50	1950 mg/kg (rat)
Dermal	LD50	3180 mg/kg (rabbit)
Inhalative	LC50/4h	5.95 mg/l (rat)

### 113-48-4 N-(2-ethylhexyl)-8,9,10-trinorborn-5-ene-2,3-dicarboximide

Oral	LD50	2800 mg/kg (rat)
Dermal	LD50	470 mg/kg (rat)

- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
Inhalation of concentrated vapors as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc.

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· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

67-63-0   propan-2-ol	3
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· **NTP (National Toxicology Program):**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

· **Probable route(s) of exposure:**

- Inhalation.
- Eye contact.
- Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):**

- Vapors have narcotic effect.
- Harmful if inhaled.

· **Repeated dose toxicity:** Repeated exposure may cause skin dryness or cracking.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

· **Carcinogenicity:** Based on available data, the classification criteria are not met.

· **Reproductive toxicity:** Based on available data, the classification criteria are not met.

· **STOT-single exposure:** May cause drowsiness or dizziness.

· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

Toxic for aquatic organisms

<b>113-48-4 N-(2-ethylhexyl)-8,9,10-trinorborn-5-ene-2,3-dicarboximide</b>	
LC50	1.4 mg/l (Oncorhynchus mykiss)

<b>136-45-8 dipropyl pyridine-2,5-dicarboxylate</b>	
LC50	1.0 mg/l (Oncorhynchus mykiss)

· **Persistence and degradability:** No relevant information available.

· **Behavior in environmental systems**

· **Bioaccumulative potential:** No relevant information available.

· **Mobility in soil:** No relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Due to mechanical actions of the product (e.g. agglutinations), damages may occur.

· **Additional ecological information**

· **General notes:**

- Do not allow product to reach ground water, water course or sewage system.
- Also poisonous for fish and plankton in water bodies.

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· **Other adverse effects:** No relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Contact waste processors for recycling information.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

· **Uncleaned packagings**

· **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

· **UN-Number**

· **DOT, ADR, IMDG, IATA** UN1950

· **UN proper shipping name**



Limited Quantity for packages less than 30 kg (66 lb) and inner packagings less than 1 L (0.3 gal).

· **DOT**

Aerosols

· **ADR**

1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS

· **IMDG**

AEROSOLS, MARINE POLLUTANT

· **IATA**

Aerosols, flammable

· **Transport hazard class(es)**

· **DOT**



· **Class**

2.1

· **Label**

2.1

· **ADR**



· **Class**

2 5F Gases

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<b>· Label</b>	2.1
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<b>· IMDG</b>	
	
<b>· Class</b>	2.1
<b>· Label</b>	2.1
<hr style="border-top: 1px dashed black;"/>	
<b>· IATA</b>	
	
<b>· Class</b>	2.1
<b>· Label</b>	2.1
<b>· Packing group</b>	Aerosols are not assigned a packing group.
<b>· Environmental hazards</b>	Product contains environmentally hazardous substances: dipropyl pyridine-2,5-dicarboxylate
<b>· Marine pollutant:</b>	Symbol (fish and tree)
<b>· Special marking (ADR):</b>	Symbol (fish and tree)
<b>· Special precautions for user</b>	Warning: Gases
<b>· Danger code (Kemler):</b>	-
<b>· EMS Number:</b>	F-D,S-U
<b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>· UN "Model Regulation"</b>	UN 1950 AEROSOLS, 2.1

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- United States (USA)
- SARA

**· Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

**· Section 304 (emergency release notification):**

None of the ingredients are listed.

**· Sections 311/312 (hazardous chemical threshold planning quantity in pounds):**

None of the ingredients are listed.

**· Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

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**· Section 313 (Specific toxic chemical listings):**

67-63-0	propan-2-ol
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136-45-8	dipropyl pyridine-2,5-dicarboxylate
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**· TSCA (Toxic Substances Control Act)**

Some ingredients listed.

**· Proposition 65 (California)**

**· Chemicals known to cause cancer:**

136-45-8	dipropyl pyridine-2,5-dicarboxylate
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**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**· Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

**· Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**· Carcinogenic categories**

**· EPA (Environmental Protection Agency):**

None of the ingredients are listed.

**· Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)**

EPA Product Registration : 51147-13.

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**WARNING:** Causes substantial but temporary eye injury. Harmful if swallowed. Do not get in eyes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

**FIRST AID**

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or a doctor. Do not give anything by mouth to an unconscious person. Have the product container or label with you when calling a poison control center or doctor or going for treatment. For information regarding medicalemergencies or pesticide incidents, call 1-877-852-0086.

**STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage and disposal.

**PESTICIDE STORAGE:** Keep this product in its tightly closed original container, when not in use. Store in a cool, dry (preferably locked) area that is inaccessible to children and animals.

**PESTICIDE DISPOSAL AND CONTAINER HANDLING:** Do Not Puncture or Incinerate! Nonrefillable container. Do not reuse or refill this container. If empty: Place in trash or offer for recycling if available.

If partly filled: Call your local solid waste agency for disposal instructions.

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· **IARC (International Agency for Research on Cancer):**

67-63-0	propan-2-ol	3
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· **NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients are listed.

· **Canadian substance listings**

· **Canadian Domestic Substances List (DSL):**

Some ingredients listed.

· **Canadian Ingredient Disclosure list (limit 0.1%):**

None of the ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 1%):**

67-63-0	propan-2-ol
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## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 11/25/2015 / -

· **Abbreviations and acronyms:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- NIOSH: National Institute for Occupational Safety
- OSHA: Occupational Safety & Health
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- BEI: Biological Exposure Limit
- Flam. Gas 1: Flammable gases, Hazard Category 1
- Flam. Aerosol 1: Flammable aerosols, Hazard Category 1
- Press. Gas: Gases under pressure: Compressed gas
- Flam. Liq. 2: Flammable liquids, Hazard Category 2
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Acute Tox. 3: Acute toxicity, Hazard Category 3
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· **Sources**

- Website, European Chemicals Agency ([http://http://echa.europa.eu/](http://echa.europa.eu/))
- Website, US EPA Substance Registry Services ([http://http://ofmpub.epa.gov/sor\\_internet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do))
- Website, Chemical Abstracts Registry, American Chemical Society (<https://www.cas.org>)
- Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
- Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN:

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Safety Data Sheets, Individual Manufacturers

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