

Safety Data Sheet

Cetane Express

1. Product and company identification

Product name : Cetane Express
Material uses : Petrochemical industry: Fuel additive.
Internal code : IFS1070
System code : IFS1070
Date of issue/Date of revision : 2020-01-15
Date of previous issue : 2020-01-15
Version : 1.01
Supplier : Innospec Fuel Specialties LLC
 8310 South Valley Highway
 Suite 350
 Englewood
 CO, 80112
 USA
Information contact : 1-800-441-9547
e-mail address of person responsible for this SDS : sdsinfo@innospecinc.com
NON-emergency enquiries : corporatecommunications@innospecinc.com

Emergency telephone number

In USA, Canada and North America, 24 hour / 7 day emergency information for our product is provided by the CHEMTREC® Emergency Call Center based in the USA

Country information : **Emergency telephone number**

USA, Canada, Puerto Rico, Virgin Islands : +1 800 424 9300
 In case of difficulties, or for ships at sea : +1 703 527 3887

In Europe, Middle East, Africa, Asia Pacific and South America 24 hour / 7 day emergency response for our products is provided by the NCEC CARECHEM 24 global network




The main regional centres are listed here in Section 1.

Other local contact numbers for specific language support in Asia Pacific are listed in Section 16

| Country information | : Emergency telephone number | Location |
|--|-------------------------------------|------------------|
| South America (all countries) | : +1 215 207 0061 | Philadelphia USA |
| Brazil | : +55 11 3197 5891 | Brazil |
| Mexico | : +52 555 004 8763 | Mexico |
| Europe (all countries) Middle East, Africa (French, Portuguese, English) | : +44 (0) 1235 239 670 | London, UK |
| Middle East, Africa (Arabic, French, English) | : +44 (0) 1235 239 671 | Lebanon |
| Asia Pacific (all countries except China) | : +65 3158 1074 | Singapore |
| China | : 400 120 6011 | Beijing China |

Section 2. Hazards identification

| | |
|---|--|
| OSHA/HCS status | : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). |
| Classification of the substance or mixture | : FLAMMABLE LIQUIDS - Category 4 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 CARCINOGENICITY - Category 2 TOXIC TO REPRODUCTION (Fertility) - Category 1B |
| GHS label elements | |
| Hazard pictograms | :  |
| Signal word | : Danger |
| Hazard statements | : H227 - Combustible liquid. H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled. H360 - May damage fertility. H351 - Suspected of causing cancer. |
| Precautionary statements | |
| Prevention | : P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing. P210 - Keep away from flames and hot surfaces. - No smoking. P271 - Use only outdoors or in a well-ventilated area. P261 - Avoid breathing vapor. P270 - Do not eat, drink or smoke when using this product. P264 - Wash hands thoroughly after handling. |
| Response | : P308 + P313 - IF exposed or concerned: Get medical attention. P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. P302 + P352 + P312 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse. |
| Storage | : P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool. |
| Disposal | : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| Supplemental label elements | : Decomposes violently when heated above 100°C. |
| Hazards not otherwise classified | : None known. |
| Target organs | : Contains material which causes damage to the following organs: skin. Contains material which may cause damage to the following organs: blood, kidneys, liver, cardiovascular system, upper respiratory tract, central nervous system (CNS), eye, lens or cornea. |

Section 2. Hazards identification

See toxicological information (Section 11)

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

| Ingredient name | % | CAS number |
|--|-------------|------------|
| 2-ethylhexyl nitrate | 60 - 100 | 27247-96-7 |
| Solvent naphtha (petroleum), heavy arom. | 4.99 - 9.99 | 64742-94-5 |
| naphthalene | 0.99 - 4.99 | 91-20-3 |
| Proprietary | Proprietary | - |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Additional information

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Remove dentures if any. Wash out mouth with water. Stop if the exposed person feels sick as vomiting may be dangerous. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Harmful if inhaled.

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Section 4. First aid measures

Skin contact : Harmful in contact with skin.

Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Decomposes violently when heated above 100°C.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Fight fire from protected location or maximum possible distance. Cool containing vessels with flooding quantities of water until well after fire is out.

Section 5. Fire-fighting measures

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remarks** : Decomposes violently when heated above 100°C.
- Flash point** : Closed cup: >70°C (>158°F) [Pensky-Martens. Estimated.]

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

- Remarks** : Consult: Innospec RS PB 09-50 / RS PB 09-51 / ATC 2EHN Best Practices Manual 2016 (Document 79) Keep away from heat.

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse

Section 7. Handling and storage

Advice on general occupational hygiene

container.

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Storage Temperature: Ambient.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---|--|
| 2-ethylhexyl nitrate naphthalene | <p>Innospec Inc. (United States, 1/2013). Absorbed through skin. TWA: 1 ppm 8 hours. STEL: 1 ppm 15 minutes.</p> <p>ACGIH TLV (United States, 3/2018). Absorbed through skin. TWA: 10 ppm, 0 times per shift, 8 hours. TWA: 52 mg/m³, 0 times per shift, 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 10 ppm, 0 times per shift, 8 hours. TWA: 50 mg/m³, 0 times per shift, 8 hours. STEL: 15 ppm, 0 times per shift, 15 minutes. STEL: 75 mg/m³, 0 times per shift, 15 minutes.</p> <p>NIOSH REL (United States, 10/2016). TWA: 10 ppm, 0 times per shift, 10 hours. TWA: 50 mg/m³, 0 times per shift, 10 hours. STEL: 15 ppm, 0 times per shift, 15 minutes. STEL: 75 mg/m³, 0 times per shift, 15 minutes.</p> <p>OSHA PEL (United States, 5/2018). TWA: 10 ppm, 0 times per shift, 8 hours. TWA: 50 mg/m³, 0 times per shift, 8 hours.</p> |

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Clear. Yellow.
- Odor** : Pungent.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Boiling point** : Lowest known value: 178 to 215°C (352.4 to 419°F)(Solvent naphtha (petroleum), heavy arom.).
- Flash point** : Closed cup: >70°C (>158°F) [Pensky-Martens. Estimated.]
- Evaporation rate** : Highest known value: <1 (2-ethylhexyl nitrate) Weighted average: 0.8 compared with butyl acetate
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Greatest known range: Lower: 0.6% Upper: 7% (Solvent naphtha (petroleum), heavy arom.)
- Vapor pressure** : Highest known value: 0.1 kPa (0.8 mm Hg) (at 20°C) (Solvent naphtha (petroleum), heavy arom.). Weighted average: 0.04 kPa (0.3 mm Hg) (at 20°C)
- Vapor density** :

Section 9. Physical and chemical properties

| | |
|---|---|
| | Highest known value: 4.6 to 5.5 (Air = 1) (Solvent naphtha (petroleum), heavy arom.). Weighted average: 1.57 (Air = 1) |
| Specific gravity | : 0.963 [ASTM D 4052] |
| Density | : 8.03 lbs/gal |
| Solubility | : Insoluble in the following materials: cold water, hot water, methanol, diethyl ether. |
| Partition coefficient: n-octanol/water | : Not available. |
| Auto-ignition temperature | : Lowest known value: 176°C (348.8°F) (2-ethylhexyl nitrate). |
| Decomposition temperature | : Not available. |
| Viscosity | : Kinematic (40°C (104°F)): 0.03 cm ² /s (3 cSt) |

Section 10. Stability and reactivity

| | |
|---|---|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : Decomposes violently when heated above 100°C. This mixture contains materials which are unstable under the following conditions: heat |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. |
| Incompatible materials | : Reactive or incompatible with the following materials: oxidizing materials |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Test | Species | Result | Dose |
|--|------|---------|-----------------------|------------------------------------|
| 2-ethylhexyl nitrate | - | Rat | LCLo Inhalation Vapor | >4.6 mg/l 1 hours |
| | - | Rabbit | LD50 Dermal | >4820 mg/ - kg |
| | - | Rat | LD50 Oral | >9640 mg/ - kg |
| Solvent naphtha (petroleum), heavy arom. | - | Rat | LC50 Inhalation Vapor | >590 mg/ 4 hours m ³ |
| | - | Rabbit | LD50 Dermal | >2 mL/kg - |
| | - | Rabbit | LD50 Dermal | 2000 mg/kg - |
| | - | Rat | LDLo Oral | 5 mL/kg - |
| naphthalene | - | Rat | LC50 Inhalation Vapor | >340 mg/ 1 hours m ³ |
| | - | Rabbit | LD50 Dermal | >2000 mg/ - kg |
| Proprietary | - | Rat | LD50 Oral | 490 mg/kg - |
| | - | Rabbit | LD50 Dermal | 5000 mg/kg - |
| | - | Rat | LD50 Oral | 2100 mg/kg - |

Potential chronic health effects

Not available.

Section 11. Toxicological information

Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|--|---|------------------------------|------------------------|
| 2-ethylhexyl nitrate | OECD 437 Bovine Corneal Opacity and Permeability Test | Mammal - species unspecified | Eyes - Mild irritant - |
| Solvent naphtha (petroleum), heavy arom. | OECD 405 Acute Eye Irritation/Corrosion | Rabbit | Eyes - Mild irritant - |
| | - | Rabbit | Skin - Mild irritant - |
| | - | Mammal - species unspecified | Eyes - Mild irritant - |

Sensitization

| Product/ingredient name | Test | Species | Result |
|-------------------------|-----------------------------|------------|-------------------|
| 2-ethylhexyl nitrate | OECD 406 Skin Sensitization | Guinea pig | Not sensitizing - |

Mutagenicity

| Product/ingredient name | Test | Experiment | Result |
|-------------------------|--|---|----------|
| 2-ethylhexyl nitrate | OECD 473 <i>In vitro</i> Mammalian Chromosomal Aberration Test | Experiment: <i>In vitro</i> Subject: Mammalian-Human | Negative |

Carcinogenicity

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|-------------------------|------|------|--|
| naphthalene | - | 2B | Reasonably anticipated to be a human carcinogen. |

Reproductive toxicity

| Product/ingredient name | Test | Species | Result | Dose |
|-------------------------|---|--------------------|--------|-----------------------------------|
| 2-ethylhexyl nitrate | OECD 421 Reproduction/Developmental Toxicity Screening Test | Rat - Male, Female | - | Oral: 20 mg/kg Parental toxicity. |
| | OECD 421 Reproduction/Developmental Toxicity Screening Test | Rat - Male, Female | - | Oral: 100 mg/kg F1 |

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|--|------------|-------------------|------------------|
| Solvent naphtha (petroleum), heavy arom. | Category 3 | Not applicable. | Narcotic effects |

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Section 11. Toxicological information

| Name | Result |
|--|--------------------------------|
| Solvent naphtha (petroleum), heavy arom. | ASPIRATION HAZARD - Category 1 |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|--|--|---|----------------------|
| 2-ethylhexyl nitrate | Acute EC50 1 to 10 mg/l Estimated. Nominal Concentration | Algae | 72 hours |
| Solvent naphtha (petroleum), heavy arom. | Acute EC50 >10 mg/l Estimated. Acute LC50 2 mg/l | Daphnia Fish - Danio rerio | 48 hours 96 hours |
| | Acute EC50 1 to 3 mg/l | Algae | 72 hours |
| naphthalene | Acute EC50 3 to 10 mg/l Acute LC50 2 to 5 mg/l | Daphnia Fish | 48 hours 96 hours |
| | Acute EC50 1.96 mg/l Fresh water Acute LC50 2350 µg/l Marine water | Daphnia - Daphnia magna Crustaceans - Palaemonetes pugio | 48 hours 48 hours |
| Proprietary | Acute LC50 1.6 mg/l Chronic NOEC 0.5 mg/l Marine water Chronic NOEC 1.5 mg/l Fresh water | Fish Crustaceans - Uca pugnax - Adult | 96 hours 3 weeks |
| | LC50 0.14 mg/l | Fish - Atlantic salmon | 96 hours |
| | Acute EC50 0.037 mg/l | Daphnia | 48 hours |
| | Acute LC50 24 mg/l | Fish | 96 hours |

Persistence and degradability

| Product/ingredient name | Test | Result |
|-------------------------|--|-----------------------------|
| 2-ethylhexyl nitrate | OECD 310 Ready Biodegradability - CO ₂ in Sealed Vessels (Headspace Test) | 0 % - Not readily - 28 days |
| Proprietary | OECD 301B Ready Biodegradability - CO ₂ Evolution Test | 78 % - Readily - 28 days |
| | OECD 301B 301B Ready Biodegradability - CO ₂ Evolution Test | 25 % - Inherent - 28 days |
| | OECD 302D 302D Inherent Biodegradability - CONCAWE Test | 10 % - Inherent - 56 days |
| | OECD 301B 301B Ready Biodegradability - CO ₂ Evolution Test | 6 % - Inherent - 28 days |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--|--|------------------|------------------|
| 2-ethylhexyl nitrate | Fresh water 10 to 15 days, pH 4, 25°C Fresh water 7 days, pH 7, 25°C Fresh water 4 to 6 days, pH 9, 25°C | - | Not readily |
| Solvent naphtha (petroleum), heavy arom. | - | - | Inherent |
| Proprietary | - | 50%; < 28 day(s) | Inherent |

Bioaccumulative potential




Section 12. Ecological information

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------|------|-----------|
| 2-ethylhexyl nitrate | 5.24 | 1332 | high |
| Solvent naphtha (petroleum), heavy arom. | - | <100 | low |
| naphthalene | 3.3 | >100 | low |
| Proprietary | 5.5 | 823 | high |

Section 13. Disposal considerations

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

| | DOT Classification | IMDG | IATA |
|-----------------------------------|--|---|--|
| UN number | NA1993 | UN3082 | UN3082 |
| UN proper shipping name | Combustible liquid, n.o.s. (2-ethylhexyl nitrate, Solvent naphtha (petroleum), heavy arom.). Marine pollutant (2-ethylhexyl nitrate, Solvent naphtha (petroleum), heavy arom.) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-ethylhexyl nitrate, Solvent naphtha (petroleum), heavy arom.). Marine pollutant (2-ethylhexyl nitrate, Solvent naphtha (petroleum), heavy arom.) | Environmentally hazardous substance, liquid, n.o.s. (2-ethylhexyl nitrate, Solvent naphtha (petroleum), heavy arom.) |
| Transport hazard class(es) | Combustible liquid.  | 9  | 9  |
| Packing group | III | III | III |
| Environmental hazards | Yes. | Yes. | Yes. |
| | | | This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8. |

Section 14. Transport information

| | | | |
|--------------------------------------|--|--|---|
| <p>Additional information</p> | <p>Non-bulk packages (less than or equal to 119 gal) of combustible liquids, that are marine pollutants, are not regulated as hazardous materials in package sizes less than the product reportable quantity, unless transported by vessel.</p> <p>This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a.</p> <p>Reportable quantity 8854.9 lbs / 4020.1 kg [1102.8 gal / 4174.6 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.</p> <p>Limited quantity Yes.</p> <p>Packaging instruction Exceptions: 150. Non-bulk: 203. Bulk: 241.</p> <p>Quantity limitation Passenger aircraft/rail: 60 L. Cargo aircraft: 220 L.</p> <p>Special provisions IB3, T4, TP1</p> | <p>This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.</p> <p>Emergency schedules F-A, S-F</p> <p>Special provisions 274, 335, 969</p> | <p>Quantity limitation Passenger and Cargo Aircraft: 450 L. Packaging instructions: 964. Cargo Aircraft Only: 450 L. Packaging instructions: 964. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y964.</p> <p>Special provisions A97, A158, A197</p> |
|--------------------------------------|--|--|---|

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 5(a)2 final significant new use rules:** 4-nonylphenol, branched

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: naphthalene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

SARA 302/304

Section 15. Regulatory information

Composition/information on ingredients

| Name | % | EHS | SARA 302 TPQ | | SARA 304 RQ | |
|------------------------------------|----------|------|--------------|-----------|-------------|-----------|
| | | | (lbs) | (gallons) | (lbs) | (gallons) |
| ethylenediamine; 1,2-diaminoethane | 0 - 0.09 | Yes. | 10000 | 1337.1 | 5000 | 668.5 |
| formaldehyde | 0 - 0.09 | Yes. | 500 | 55 | 100 | 11 |

SARA 304 RQ : 651009.1 lbs / 295558.1 kg [81078.1 gal / 306913.9 L]

SARA 311/312

Classification : Fire hazard
 Immediate (acute) health hazard
 Delayed (chronic) health hazard

Composition/information on ingredients

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|--|-------------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| 2-ethylhexyl nitrate | 60 - 100 | Yes. | No. | No. | Yes. | No. |
| Solvent naphtha (petroleum), heavy arom. | 4.99 - 9.99 | Yes. | No. | No. | Yes. | No. |
| naphthalene | 0.99 - 4.99 | No. | No. | No. | Yes. | Yes. |
| Proprietary | Proprietary | No. | No. | No. | Yes. | Yes. |

SARA 313

| | Product name | CAS number | % |
|--|--------------|------------|-------------|
| Form R - Reporting requirements | naphthalene | 91-20-3 | 0.99 - 4.99 |
| Supplier notification | naphthalene | 91-20-3 | 0.99 - 4.99 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

- Massachusetts** : The following components are listed: NAPHTHALENE
- New York** : The following components are listed: Naphthalene
- New Jersey** : The following components are listed: NAPHTHALENE; MOTH FLAKES
- Pennsylvania** : The following components are listed: NAPHTHALENE
- California Prop. 65** : **WARNING:** This product can expose you to chemicals including naphthalene, formaldehyde, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level | Contains : % or ppm |
|------------------------|--------|--------------|---------------------------|---------------------------------|---------------------|
| naphthalene | Yes. | No. | | | ≤2.6 |
| Formaldehyde, solution | Yes. | No. | | | <0.1 |

International lists

National inventory

Australia inventory (AICS)

: All components are listed or exempted.

Date of issue/Date of revision : 2020-01-15

Section 15. Regulatory information

| | |
|---|--|
| Canada inventory | : All components are listed or exempted. |
| China inventory (IECSC) | : All components are listed or exempted. |
| Europe inventory | : All components are listed or exempted. |
| Japan inventory (ENCS) | : Japan inventory (ENCS) : At least one component is not listed. Japan inventory (ISHL) : Not determined. |
| New Zealand Inventory of Chemicals (NZIoC) | : All components are listed or exempted. |
| Philippines inventory (PICCS) | : All components are listed or exempted. |
| Korea inventory (KECI) | : All components are listed or exempted. |
| Taiwan inventory (TCSI) | : All components are listed or exempted. |
| United States inventory (TSCA 8b) | : All components are listed or exempted. |

Our REACH (pre-) registrations DO NOT cover the following:

1. The manufacture of these products by our company outside the EU unless covered by the Only Representative provisions, and
 2. The importation of these products into Europe by other companies. Re-importation by other companies is not covered by our (pre-) registrations
- Customers and other third parties importing and/or re-importing our products into Europe will need either:
- Their own (pre-) registration for substances contained in the imported product, or constituent monomers (imported above 1 tonne per year and >2% by weight) in the case of imported polymers, or
 - In the case of importation only, to make use of the "Only Representative" provisions, if available.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

| | | |
|------------------|---|---|
| Health | * | 2 |
| Flammability | | 2 |
| Physical hazards | | 0 |
| | | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

History

| | |
|---------------------------------------|--------------|
| Date of printing | : 2020-01-15 |
| Date of issue/Date of revision | : 2020-01-15 |
| Date of previous issue | : 2020-01-15 |

Date of issue/Date of revision : 2020-01-15

Section 16. Other information

| | |
|-----------------------------|--|
| Version | : 1.01 |
| Key to abbreviations | : ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations |

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.