

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Trade name	: Diesel Secondary Reference Fuel T
Chemical name	: Diesel
CAS-No.	: 68476-34-6
Product code	: HF3007
Formula	: Unspecified
Synonyms	: Diesel fuel oil no. 2-D / Fuel oil, no. 2-D / Diesel fuel no. 2 / Fuels, diesel, no. 2 (A distillate oil having a minimum viscosity of 32.6 SUS at 37.7°C (100°F) to a maximum of 40.1 SUS at 37.7°C (100°F).) / Gasoil - unspecified / Diesel No. 2 / Fuels, diesel, No. 2

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Fuel for engine development and testing
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1.3. Supplier

Manufacturer

Haltermann Solutions™
 15600 West Hardy Rd.
 Houston, TX, 77060
 USA
 T 1-800-969-2542 - F 281-457-1469

1.4. Emergency telephone number

Emergency number	: 24 HR CHEMTREC: 1-800-424-9300; Emergency Assistance: 1-800-969-2542 (8 AM to 5 PM CDT)
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 4	H227	Combustible liquid
Acute toxicity (inhalation:dust,mist) Category 4	H332	Harmful if inhaled
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Carcinogenicity Category 2	H351	Suspected of causing cancer
Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336	May cause drowsiness or dizziness
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs through prolonged or repeated exposure
Aspiration hazard Category 1	H304	May be fatal if swallowed and enters airways
Hazardous to the aquatic environment – Acute Hazard Category 2	H401	Toxic to aquatic life
Hazardous to the aquatic environment – Chronic Hazard Category 2	H411	Toxic to aquatic life with long lasting effects
Full text of H statements : see section 16		

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2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

Hazard statements (GHS US)

Precautionary statements (GHS US)

- : Danger
- : H227 - Combustible liquid
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H401 - Toxic to aquatic life
H411 - Toxic to aquatic life with long lasting effects
- : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 - If swallowed: Immediately call a doctor, a POISON CENTER.
P302+P352 - If on skin: Wash with plenty of soap and water.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P312 - Call a doctor, a POISON CENTER if you feel unwell.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P331 - Do NOT induce vomiting.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO₂), dry extinguishing powder to extinguish.
P391 - Collect spillage.
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 hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

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SECTION 3: Composition/Information on ingredients

3.1. Substances

Chemical name : Diesel
CAS-No. : 68476-34-6

Name	Product identifier	%
Diesel	CAS-No.: 68476-34-6	100
Petroleum Distillates	CAS-No.: 8002-05-9	75 – 85
Petroleum distillates, hydrotreated light	CAS-No.: 64742-47-8	15 – 25
Distillates, petroleum, hydrotreated middle	CAS-No.: 64742-46-7	5 – 15
Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified, [A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 165 °C to 290 °C (330 °F to 554 °F).]	CAS-No.: 64742-94-5	5 – 15
naphthalene	CAS-No.: 91-20-3	0 – 3
n-hexane	CAS-No.: 110-54-3	0 – 2
n-Heptane	CAS-No.: 142-82-5	0 – 2
Octane	CAS-No.: 111-65-9	0 – 2

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : May cause drowsiness or dizziness.
Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Irritation.
Symptoms/effects after eye contact : Eye irritation.
Symptoms/effects after ingestion : Risk of lung edema.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Fire hazard : Combustible liquid.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Diesel (68476-34-6)	
No additional information available	
Petroleum Distillates (8002-05-9)	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [2]	500 ppm
Petroleum distillates, hydrotreated light (64742-47-8)	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [2]	500 ppm
Distillates, petroleum, hydrotreated middle (64742-46-7)	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [2]	500 ppm
n-hexane (110-54-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	n-Hexane
ACGIH OEL TWA [ppm]	50 ppm
Remark (ACGIH)	CNS impair; peripheral neuropathy; eye irr; Skin; BEI
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
BEI (BLV)	0,5 mg/l Parameter: 2,5-Hexanedione without hydrolysis - Medium: urine - Sampling time: end of shift
USA - OSHA - Occupational Exposure Limits	
Local name	n-Hexane
OSHA PEL (TWA) [1]	1800 mg/m ³
OSHA PEL (TWA) [2]	500 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	1100 ppm (10% LEL)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	180 mg/m ³
NIOSH REL TWA [ppm]	50 ppm
n-Heptane (142-82-5)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL STEL [ppm]	500 ppm (Heptane, all isomers)
USA - OSHA - Occupational Exposure Limits	
Local name	Heptane (n-Heptane)

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n-Heptane (142-82-5)	
OSHA PEL (TWA) [1]	2000 mg/m ³
OSHA PEL (TWA) [2]	500 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	750 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	350 mg/m ³
NIOSH REL TWA [ppm]	85 ppm
NIOSH REL (Ceiling)	1800 mg/m ³
NIOSH REL C [ppm]	440 ppm
Octane (111-65-9)	
USA - OSHA - Occupational Exposure Limits	
Local name	Octane
OSHA PEL (TWA) [1]	2350 mg/m ³
OSHA PEL (TWA) [2]	500 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	1000 ppm (10% LEL)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	350 mg/m ³
NIOSH REL TWA [ppm]	75 ppm
NIOSH REL (Ceiling)	1800 mg/m ³
NIOSH REL C [ppm]	385 ppm
Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified, [A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 165 °C to 290 °C (330 °F to 554 °F).] (64742-94-5)	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [2]	500 ppm
naphthalene (91-20-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Naphthalene
ACGIH OEL TWA [ppm]	10 ppm
Remark (ACGIH)	Hematologic eff; URT & eye irr; Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure)

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naphthalene (91-20-3)	
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans, Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	NAPHTHALENE
BEI (BLV)	Parameter: 1-Naphthol with hydrolysis plus 2-Naphthol with hydrolysis - Sampling time: end of shift (nonquantitative, nonspecific)
Regulatory reference	ACGIH 2023
USA - OSHA - Occupational Exposure Limits	
Local name	Naphthalene
OSHA PEL (TWA) [1]	50 mg/m ³
OSHA PEL (TWA) [2]	10 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	250 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	50 mg/m ³
NIOSH REL TWA [ppm]	10 ppm
NIOSH REL (STEL)	75 mg/m ³
NIOSH REL STEL [ppm]	15 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. [In case of inadequate ventilation] wear respiratory protection.

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Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Pale yellow to brown if undyed red or purple if dyed
Odor	: mild
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 170 – 365 °C
Flash point	: > 60,5 °C closed cup
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: 4 hPa (at 40 °C)
Relative vapor density at 20°C	: No data available
Relative density	: 33 – 42 °API
Density	: 0,84 g/cm ³ (at 15 °C)
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

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10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Harmful if inhaled.

Diesel (68476-34-6)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	1 – 5 mg/l/4h
ATE US (vapors)	1 mg/l/4h
ATE US (dust, mist)	1 mg/l/4h

Petroleum Distillates (8002-05-9)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Petroleum distillates, hydrotreated light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	> 5,2 mg/l/4h

Distillates, petroleum, hydrotreated middle (64742-46-7)	
LD50 oral rat	7400 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	4,6 mg/l/4h
ATE US (oral)	7400 mg/kg body weight
ATE US (vapors)	4,6 mg/l/4h
ATE US (dust, mist)	4,6 mg/l/4h

n-hexane (110-54-3)	
LD50 oral rat	25 g/kg
LD50 dermal rabbit	3000 mg/kg
LC50 Inhalation - Rat	> 17,6 mg/l air (Equivalent or similar to OECD 403, 24 h, Rat, Male, Experimental value, Inhalation (vapours))
ATE US (oral)	25000 mg/kg body weight
ATE US (dermal)	3000 mg/kg body weight

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n-Heptane (142-82-5)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 Inhalation - Rat	> 73,5 mg/l/4h
ATE US (dermal)	3000 mg/kg body weight
Octane (111-65-9)	
LC50 Inhalation - Rat	> 24,88 mg/l/4h
Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified, [A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 165 °C to 290 °C (330 °F to 554 °F).] (64742-94-5)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 3160 mg/kg
LC50 Inhalation - Rat	> 5,2 mg/l (Exposure time: 4 h)
naphthalene (91-20-3)	
LD50 oral rat	1110 mg/kg
LD50 oral	533 mg/kg body weight (Equivalent or similar to OECD 401, Mouse, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 16000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LD50 dermal rabbit	> 2000 mg/kg body weight
LC50 Inhalation - Rat	> 0,34 mg/l (Exposure time: 1 h)
ATE US (oral)	533 mg/kg body weight
Skin corrosion/irritation	: Causes skin irritation.
n-hexane (110-54-3)	
pH	7 (< 0.01 %, 25 °C)
naphthalene (91-20-3)	
pH	No data available in the literature
Serious eye damage/irritation	: Causes serious eye irritation.
n-hexane (110-54-3)	
pH	7 (< 0.01 %, 25 °C)
naphthalene (91-20-3)	
pH	No data available in the literature
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Petroleum Distillates (8002-05-9)	
IARC group	3 - Not classifiable
naphthalene (91-20-3)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen, Evidence of Carcinogenicity

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naphthalene (91-20-3)	
In OSHA Hazard Communication Carcinogen list	Yes
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
naphthalene (91-20-3)	
LOAEL (animal/female, F0/P)	50 mg/kg body weight Animal: rat, Animal sex: female, Guideline: other:OECD Guideline 414 (Prenatal Developmental Toxicity Study)
LOAEL (animal/female, F1)	450 mg/kg body weight Animal: rat, Animal sex: female, Guideline: other:OECD Guideline 414 (Prenatal Developmental Toxicity Study)
NOAEL (animal/female, F0/P)	120 mg/kg body weight Animal: rabbit, Animal sex: female, Guideline: other:OECD Guideline 414 (Prenatal Developmental Toxicity Study)
STOT-single exposure	: May cause drowsiness or dizziness. May cause respiratory irritation.
Petroleum Distillates (8002-05-9)	
STOT-single exposure	May cause drowsiness or dizziness.
n-hexane (110-54-3)	
STOT-single exposure	May cause drowsiness or dizziness.
n-Heptane (142-82-5)	
STOT-single exposure	May cause drowsiness or dizziness.
Octane (111-65-9)	
STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Petroleum Distillates (8002-05-9)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
n-hexane (110-54-3)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
naphthalene (91-20-3)	
LOAEL (oral,rat,90 days)	400 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
LOAEC (inhalation,rat,vapor,90 days)	0,011 mg/l air Animal: rat, Guideline: EPA OPP 82-4 (90-Day Inhalation Toxicity), Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
NOAEL (dermal,rat/rabbit,90 days)	1000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)
Aspiration hazard	: May be fatal if swallowed and enters airways.
Viscosity, kinematic	: No data available
n-hexane (110-54-3)	
Viscosity, kinematic	No data available in the literature
naphthalene (91-20-3)	
Viscosity, kinematic	1 mm ² /s (80 °C, OECD 114: Viscosity of Liquids)
Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: Risk of lung edema.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Diesel (68476-34-6)	
LC50 - Fish [1]	35 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	6,4 mg/l 48 hr
Petroleum Distillates (8002-05-9)	
LC50 - Fish [1]	3 mg/l (Exposure time: 96 h - Species: Oncorhynchus Mykiss)
EC50 - Crustacea [1]	< 0,26 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
Petroleum distillates, hydrotreated light (64742-47-8)	
LC50 - Fish [1]	45 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	2,2 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
Distillates, petroleum, hydrotreated middle (64742-46-7)	
LC50 - Fish [1]	35 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 - Fish [2]	> 10000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
n-Heptane (142-82-5)	
LC50 - Fish [1]	375 mg/l (Exposure time: 96 h - Species: Cichlid fish)
EC50 - Crustacea [1]	> 10 mg/l 24hr
LC50 - Fish [2]	0,1 mg/l (Exposure time: 96 h - Species: Mysidopsis Bahia)
Octane (111-65-9)	
EC50 - Crustacea [1]	0,38 mg/l (Exposure time: 48 h - Species: water flea)
Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified, [A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 165 °C to 290 °C (330 °F to 554 °F).] (64742-94-5)	
LC50 - Fish [1]	19 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [1]	0,95 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	2,34 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)

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naphthalene (91-20-3)	
LC50 - Fish [1]	5,74 – 6,44 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	2,16 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	1,6 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 - Crustacea [2]	1,96 mg/l (Exposure time: 48 h - Species: Daphnia magna [Flow through])
EC50 72h - Algae [1]	0,4 mg/l (Skeletonema costatum, Literature study, Growth rate)
NOEC (chronic)	0,59 mg/l Test organisms (species): Daphnia pulex Duration: '125 d'
NOEC chronic fish	≈ 0,37 mg/l Test organisms (species): Oncorhynchus kisutch Duration: '40 d'

12.2. Persistence and degradability

n-hexane (110-54-3)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
ThOD	3,52 g O ₂ /g substance

naphthalene (91-20-3)	
Persistence and degradability	Not established.
Biochemical oxygen demand (BOD)	0 g O ₂ /g substance
Chemical oxygen demand (COD)	0,22 g O ₂ /g substance
ThOD	2,99 g O ₂ /g substance

12.3. Bioaccumulative potential

Petroleum Distillates (8002-05-9)	
Bioaccumulative potential	Not bioaccumulative.

Petroleum distillates, hydrotreated light (64742-47-8)	
BCF - Fish [1]	61 – 159

n-hexane (110-54-3)	
BCF - Fish [1]	501,187 (Pimephales promelas, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	4 (Experimental value, Equivalent or similar to OECD 107, 20 °C)
Bioaccumulative potential	Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).

n-Heptane (142-82-5)	
Partition coefficient n-octanol/water (Log Pow)	4,66

Octane (111-65-9)	
Partition coefficient n-octanol/water (Log Pow)	5,18

Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified, [A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 165 °C to 290 °C (330 °F to 554 °F).] (64742-94-5)	
BCF - Fish [1]	61 – 159
Partition coefficient n-octanol/water (Log Pow)	2,9 – 6,1

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naphthalene (91-20-3)	
BCF - Fish [1]	30 – 430
Partition coefficient n-octanol/water (Log Pow)	3,6
Bioaccumulative potential	Not established.

12.4. Mobility in soil

n-hexane (110-54-3)	
Surface tension	17,89 mN/m (25 °C, 1 g/l)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3,34 (log Koc, QSAR)
Ecology - soil	Low potential for mobility in soil.

naphthalene (91-20-3)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2,864 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

DOT NA No : NA1993
UN-No. (IMDG) : 3082
UN-No. (IATA) : 3082

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Combustible liquid, n.o.s. (Diesel Fuel)
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diesel Fuel)
Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s. (Diesel Fuel)
Transport document description (DOT) : NA1993 Combustible liquid, n.o.s. (Diesel Fuel), 3, III
Transport document description (IMDG) : UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Diesel Fuel), 9, III, MARINE POLLUTANT
Transport document description (IATA) : UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Diesel Fuel), 9, III

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Combustible liquid

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IMDG

Transport hazard class(es) (IMDG) : 9

Hazard labels (IMDG) : 9



IATA

Transport hazard class(es) (IATA) : 9

Hazard labels (IATA) : 9



14.4. Packing group

Packing group (DOT) : III

Packing group (IMDG) : III

Packing group (IATA) : III

14.5. Environmental hazards

Dangerous for the environment : Yes

Marine pollutant : Yes



Other information : Transportation Notes: Material is not regulated by the U.S. DOT for ground transportation within the U.S. if shipped in non-bulk packaging (<119 gallons).

14.6. Special precautions for user

DOT

UN-No.(DOT) : NA1993

DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).

T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)

T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L

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DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

IMDG

Special provision (IMDG) : 274, 335, 969
Packing instructions (IMDG) : P001, LP01
Packing provisions (IMDG) : PP1
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP2, TP29
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG) : A

IATA

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y964
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 964
PCA max net quantity (IATA) : 450L
CAO packing instructions (IATA) : 964
CAO max net quantity (IATA) : 450L
Special provision (IATA) : A97, A158, A197
ERG code (IATA) : 9L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Hexane	CAS-No. 110-54-3	0 – 2%
Naphthalene	CAS-No. 91-20-3	0 – 3%

n-hexane (110-54-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ : 5000 lb

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naphthalene (91-20-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ

100 lb

15.2. International regulations

CANADA

Diesel (68476-34-6)

Listed on the Canadian DSL (Domestic Substances List)

Petroleum Distillates (8002-05-9)

Listed on the Canadian DSL (Domestic Substances List)

Petroleum distillates, hydrotreated light (64742-47-8)

Listed on the Canadian DSL (Domestic Substances List)

Distillates, petroleum, hydrotreated middle (64742-46-7)

Listed on the Canadian DSL (Domestic Substances List)

n-hexane (110-54-3)

Listed on the Canadian DSL (Domestic Substances List)

n-Heptane (142-82-5)

Listed on the Canadian DSL (Domestic Substances List)

Octane (111-65-9)

Listed on the Canadian DSL (Domestic Substances List)

Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified, [A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 165 °C to 290 °C (330 °F to 554 °F).] (64742-94-5)

Listed on the Canadian DSL (Domestic Substances List)

naphthalene (91-20-3)

Listed on the Canadian DSL (Domestic Substances List)

Toxic Substance (CEPA – Schedule I)

Yes

EU-Regulations

Diesel (68476-34-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Petroleum Distillates (8002-05-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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Petroleum distillates, hydrotreated light (64742-47-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Distillates, petroleum, hydrotreated middle (64742-46-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

n-hexane (110-54-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

n-Heptane (142-82-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Octane (111-65-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified, [A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 165 °C to 290 °C (330 °F to 554 °F).] (64742-94-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

naphthalene (91-20-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Diesel (68476-34-6)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

Petroleum Distillates (8002-05-9)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

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Petroleum distillates, hydrotreated light (64742-47-8)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

Distillates, petroleum, hydrotreated middle (64742-46-7)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

n-hexane (110-54-3)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

n-Heptane (142-82-5)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

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Octane (111-65-9)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

Solvent naphtha (petroleum), heavy arom.; Kerosine - unspecified, [A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C9 through C16 and boiling in the range of approximately 165 °C to 290 °C (330 °F to 554 °F).] (64742-94-5)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

naphthalene (91-20-3)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

15.3. US State regulations



WARNING:

This product can expose you to Naphthalene, which is known to the State of California to cause cancer, and n-Hexane, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
Petroleum Distillates(8002-05-9)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List
n-hexane(110-54-3)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List; U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs); U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations

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Component	State or local regulations
n-Heptane(142-82-5)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List; U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs); U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
Octane(111-65-9)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List; U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs); U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
naphthalene(91-20-3)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List; U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs); U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

SECTION 16: Other information

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Revision date : 16.08.2023

Full text of H-phrases	
H227	Combustible liquid
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

Abbreviations and acronyms	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)

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Abbreviations and acronyms	
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

NFPA health hazard

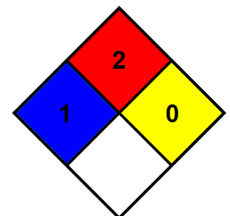
: 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard

: 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Safety Data Sheet (SDS), USA