SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Trade name	:	Low Ethanol Gasoline
Chemical name	:	Gasoline
CAS-No.	:	8006-61-9
Product code	:	HF0085, HF0115, HF0287, HF0289, HF0329, HF0346, HF0347, HF0377, HF0433, HF0434, HF0442, HF0494, HF0516, HF0519, HF0522, HF0524, HF0533, HF0547, HF0548, HF0549, HF0556, HF0558, HF0590, HF0597, HF0599, HF0601, HF0603, HF0613, HF0625, HF0630, HF0651, HF0657, HF0678, HF0680, HF0684, HF0693, HF0701, HF0702, HF0725, HF0726, HF0728, HF0733, HF0737, HF0745, HF0748, HF0749, HF0758, HF0759, HF0769, HF0770, HF0773, HF0775, HF0783, HF0803, HF0804, HF0811, HF0831, HF0857, HF0858, HF0861, HF0862, HF0869, HF0881, HF0882, HF0892, HF0896, HF0898, HF0899, HF0900, HF0901, HF0903, HF0905, HF0906, HF0915, HF0919, HF0920, HF0922, HF0930, HF0934, HF0936, HF0940, HF0941, HF0948, HF0950, HF0960, HF0962, HF0970, HF0975, HF0978, HF0981, HF0985, HF0993, HF1038, HF1088, HF1133, HF1157, HF1192, HF1218, HF1234, HF1237, HF2000, HF2009, HF2016, HF2017, HF2021, HF2027, HF2030, HF2031, HF2032, HF2033, HF2037, HF2042, HF2043, HF2045, HF2046, HF2047, HF2048, HF2049, HF2053, HF2063, HF2065, HF2066, HF2067, HF2068, HF2069, HF2075, HF2076, HF2081, HF2098, HF2101, HF2102, HF2104, HF2105, HF2115, HF2118, HF2119, HF2122, HF2123, HF2129, HF2137, HF2142, HF2144, HF2150, HF2155, HF2156, HF2157, HF2163, HF2167, HF2168, HF2169, HF2177, HF2184, HF2191, HF2192, HF2197, HF2199, HF2203, HF2214, HF3028, ETC
Formula	:	Unspecified
Synonyms	:	Gasoline / Light gasoline / Motor spirit / Gasoline, natural (A complex combination of hydrocarbons separated from natural gas by processes such as refrigeration or absorption. It consists predominantly of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C4-8 and boiling in the range of approximately minus 20-120°C.) / Petroleum derived fuels / Gasoline, natural; Low boiling point naphtha [A complex combination of hydrocarbons separated from natural gas by processes such as refrigeration or absorption. It consists predominantly of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C4 through C8 and boiling in the range of approximately minus 20°C to 120°C (- 4°F to 248°F).] / Natural gasoline / Unleaded gasoline / Heating oil, light

1.2. Recommended use and restrictions on use

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

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)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 1	H224	Extremely flammable liquid and vapor
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Germ cell mutagenicity Category 2	H341	Suspected of causing genetic defects
Carcinogenicity Category 1A	H350	May cause 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 1	H410	Very toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) :
H224 - Extremely flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H341 - Suspected of causing genetic defects
H350 - May cause 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
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS US) :
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.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment.
P241 - Use explosion-proof electrical, lighting, ventilating equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
P264 - Wash hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear eye protection, protective clothing, protective gloves.
P301+P310 - If swallowed: Immediately call a doctor, a POISON CENTER.

P302+P352 - If on skin: Wash with plenty of water.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
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 Consult a doctor/medical service if you feel unwell 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

SECTION 3: Composition/Information on ingredients

3.1. Substances

Chemical name : Gasoline
CAS-No. : 8006-61-9

Name	Product identifier	%
Gasoline	CAS-No.: 8006-61-9	100
Petroleum Distillates	CAS-No.: 8002-05-9	0 – 100
toluene	CAS-No.: 108-88-3	0 – 60
cyclohexane	CAS-No.: 110-82-7	0 – 50
n-hexane	CAS-No.: 110-54-3	0 – 50
2-Methylbutane	CAS-No.: 78-78-4	0 – 40
isobutane	CAS-No.: 75-28-5	0 – 40
Ethylbenzene	CAS-No.: 100-41-4	0 – 40
butane	CAS-No.: 106-97-8	0 – 40
xylene	CAS-No.: 1330-20-7	0 – 40
methanol	CAS-No.: 67-56-1	0 – 40
1,2,4-trimethylbenzene	CAS-No.: 95-63-6	0 – 30

Name	Product identifier	%
Cumene	CAS-No.: 98-82-8	0 – 20
naphthalene	CAS-No.: 91-20-3	0 – 20
benzene	CAS-No.: 71-43-2	0 – 10
Ethyl alcohol	CAS-No.: 64-17-5	0 – 10
2-Nitropropane	CAS-No.: 79-46-9	0 – 4

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 : Rinse skin with water/shower. Remove/Take off immediately all 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.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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

Unsuitable extinguishing media : No unsuitable extinguishing media known.

5.2. Specific hazards arising from the chemical

Fire hazard : Extremely flammable liquid and vapor.

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 : No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray.

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. Notify authorities if product enters sewers or public waters.

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. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Gasoline (8006-61-9)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	300 ppm

Gasoline (8006-61-9)	
ACGIH OEL STEL [ppm]	500 ppm

Petroleum Distillates (8002-05-9)	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [2]	500 ppm

toluene (108-88-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Toluene
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	Visual impair; female repro; pregnancy loss; A4; BEI
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Regulatory reference	ACGIH 2022
USA - ACGIH - Biological Exposure Indices	
Local name	TOLUENE
BEI (BLV)	0.02 mg/l Parameter: Toluene - Medium: blood - Sampling time: prior to last shift of workweek 0.03 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift 0.3 mg/g Kreatinin Parameter: o-Cresol with hydrolysis - Medium: urine - Sampling time: end of shift (background)
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Toluene
OSHA PEL (TWA) [2]	200 ppm
OSHA PEL C [ppm]	300 ppm
Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	500 ppm Peak (10 minutes)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-2
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	500 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	375 mg/m³
NIOSH REL TWA [ppm]	100 ppm
NIOSH REL (STEL)	560 mg/m³
NIOSH REL STEL [ppm]	150 ppm

cyclohexane (110-82-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Cyclohexane
ACGIH OEL TWA [ppm]	100 ppm
Remark (ACGIH)	CNS impair
Regulatory reference	ACGIH 2022

cyclohexane (110-82-7)	
USA - OSHA - Occupational Exposure Limits	
Local name	Cyclohexane
OSHA PEL (TWA) [1]	1050 mg/m³
OSHA PEL (TWA) [2]	300 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	1300 ppm (10% LEL)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	1050 mg/m³
NIOSH REL TWA [ppm]	300 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 2022
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/m³
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/m³
NIOSH REL TWA [ppm]	50 ppm

2-Methylbutane (78-78-4)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Pentane, all isomers (1989)
ACGIH OEL TWA [ppm]	1000 ppm

isobutane (75-28-5)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers)

isobutane (75-28-5)	
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	1900 mg/m³
NIOSH REL TWA [ppm]	800 ppm

Ethylbenzene (100-41-4)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA - ACGIH - Biological Exposure Indices	
BEI (BLV)	0.15 g/g Kreatinin Parameter: Sum of mandelic acid and phenylglyoxylic acid - Medium: urine - Sampling time: end of shift (nonspecific)
USA - OSHA - Occupational Exposure Limits	
Local name	Ethyl benzene
OSHA PEL (TWA) [1]	435 mg/m³
OSHA PEL (TWA) [2]	100 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	800 ppm (10% LEL)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	435 mg/m³
NIOSH REL TWA [ppm]	100 ppm
NIOSH REL (STEL)	545 mg/m³
NIOSH REL STEL [ppm]	125 ppm

butane (106-97-8)	
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	1600 ppm (>10% LEL)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	1900 mg/m³
NIOSH REL TWA [ppm]	800 ppm

1,2,4-trimethylbenzene (95-63-6)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	25 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	125 mg/m³
NIOSH REL TWA [ppm]	25 ppm

Cumene (98-82-8)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Cumene
ACGIH OEL TWA [ppm]	5 ppm
Remark (ACGIH)	TLV® Basis: URT adenoma; neurological eff. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)

Cumene (98-82-8)	
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Cumene
OSHA PEL (TWA) [1]	245 mg/m³
OSHA PEL (TWA) [2]	50 ppm
Limit value category (OSHA)	prevent or reduce skin absorption
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	900 ppm (10% LEL)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	245 mg/m³
NIOSH REL TWA [ppm]	50 ppm
US-NIOSH chemical category	Potential for dermal absorption

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)
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 2022
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 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Naphthalene
OSHA PEL (TWA) [1]	50 mg/m³
OSHA PEL (TWA) [2]	10 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	250 ppm

naphthalene (91-20-3)	
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	50 mg/m³
NIOSH REL TWA [ppm]	10 ppm
NIOSH REL (STEL)	75 mg/m³
NIOSH REL STEL [ppm]	15 ppm

benzene (71-43-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Benzene
ACGIH OEL TWA [ppm]	0.5 ppm
ACGIH OEL STEL [ppm]	2.5 ppm
Remark (ACGIH)	Leukemia
ACGIH chemical category	Confirmed Human Carcinogen, Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2022
USA - ACGIH - Biological Exposure Indices	
Local name	BENZENE
BEI (BLV)	25 µg/g Kreatinin Parameter: S-Phenylmercapturic acid - Medium: urine - Sampling time: end of shift (background) 500 µg/g Kreatinin Parameter: t,t-Muconic acid - Medium: urine - Sampling time: end of shift (background)
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Benzene
OSHA PEL (TWA) [2]	10 ppm 1 ppm
OSHA PEL (STEL) [2]	5 ppm (see 29 CFR 1910.1028)
OSHA PEL C [ppm]	25 ppm
Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	50 ppm Peak (10 minutes)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-2
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	500 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA [ppm]	0.1 ppm
NIOSH REL STEL [ppm]	1 ppm

xylene (1330-20-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Xylene, mixed isomers (Dimethylbenzene)
ACGIH OEL TWA [ppm]	20 ppm

xylene (1330-20-7)	
Remark (ACGIH)	TLV® Basis: URT & eye irr; hematologic eff; ototoxycity (for mixtures containing p-xylene); CNS impair. Notations: OTO (for mixtures containing p-xylene); A4 (Not classifiable as a Human Carcinogen); BEI
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Regulatory reference	ACGIH 2022
USA - ACGIH - Biological Exposure Indices	
Local name	XYLENES (Technical or commercial grade)
BEI (BLV)	1.5 g/g Kreatinin Parameter: Methylhippuric acids - Medium: urine - Sampling time: end of shift
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Xylenes (o-, m-, p-isomers)
OSHA PEL (TWA) [1]	435 mg/m³
OSHA PEL (TWA) [2]	100 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

Ethyl alcohol (64-17-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ethanol
ACGIH OEL STEL [ppm]	1000 ppm
Remark (ACGIH)	URT irr
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA - OSHA - Occupational Exposure Limits	
Local name	Ethyl alcohol (Ethanol)
OSHA PEL (TWA) [1]	1900 mg/m³
OSHA PEL (TWA) [2]	1000 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	3300 ppm (10% LEL)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	1900 mg/m³
NIOSH REL TWA [ppm]	1000 ppm

methanol (67-56-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Methanol
ACGIH OEL TWA [ppm]	200 ppm
ACGIH OEL STEL [ppm]	250 ppm
Remark (ACGIH)	Headache; eye dam; dizziness; nausea
ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2022

methanol (67-56-1)	
USA - ACGIH - Biological Exposure Indices	
Local name	METHANOL
BEI (BLV)	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of shift (background, nonspecific)
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
Local name	Methyl alcohol
OSHA PEL (TWA) [1]	260 mg/m³
OSHA PEL (TWA) [2]	200 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	6000 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	260 mg/m³
NIOSH REL TWA [ppm]	200 ppm
NIOSH REL (STEL)	325 mg/m³
NIOSH REL STEL [ppm]	250 ppm
US-NIOSH chemical category	Potential for dermal absorption

2-Nitropropane (79-46-9)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	10 ppm
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	90 mg/m³
OSHA PEL (TWA) [2]	25 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	100 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:
Wear respiratory protection.

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Colorless to amber colored liquid.
Color	:	clear amber
Odor	:	gasoline-like
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	25 – 196 °C
Flash point	:	-40 °C
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	64.8 – 93.1 kPa ; 9.4 - 13.5 psi Reid Vapor Pressure
Relative vapor density at 20°C	:	No data available
Relative density	:	54 – 70 °API Gravity
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

Extremely flammable liquid and vapor.

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

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

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) : Not classified.

Gasoline (8006-61-9)	
LD50 oral rat	14000 mg/kg
LC50 Inhalation - Rat	300 g/m³ (Exposure time: 5 min)
ATE US (oral)	14000 mg/kg body weight
ATE US (vapors)	300 mg/l/4h
ATE US (dust, mist)	300 mg/l/4h

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

toluene (108-88-3)	
LD50 oral rat	2600 mg/kg
LD50 dermal rabbit	12000 mg/kg
LC50 Inhalation - Rat	12.5 mg/l/4h
ATE US (oral)	2600 mg/kg body weight
ATE US (dermal)	12000 mg/kg body weight
ATE US (vapors)	12.5 mg/l/4h
ATE US (dust, mist)	12.5 mg/l/4h

cyclohexane (110-82-7)	
LD50 oral rat	12705 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	> 32880 mg/m³ (Exposure time: 4 h)
ATE US (oral)	12705 mg/kg body weight

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

2-Methylbutane (78-78-4)	
LD50 oral rat	> 2000 mg/kg body weight
LC50 Inhalation - Rat	1000 mg/l (1 hr)
ATE US (vapors)	1000 mg/l/4h
ATE US (dust, mist)	1000 mg/l/4h

isobutane (75-28-5)	
LC50 Inhalation - Rat [ppm]	> 800000 ppm (Exposure time: 15 min)

Ethylbenzene (100-41-4)	
LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	15400 mg/kg
LC50 Inhalation - Rat	17.4 mg/l/4h
ATE US (oral)	3500 mg/kg body weight
ATE US (dermal)	15400 mg/kg body weight
ATE US (vapors)	17.4 mg/l/4h
ATE US (dust, mist)	17.4 mg/l/4h

butane (106-97-8)	
LC50 Inhalation - Rat	658 g/m³ (Exposure time: 4 h)
ATE US (vapors)	658 mg/l/4h
ATE US (dust, mist)	658 mg/l/4h

1,2,4-trimethylbenzene (95-63-6)	
LD50 oral rat	3280 mg/kg
LD50 dermal rat	3440 mg/kg (24 h, Rat, Male / female, Read-across, Dermal)
LD50 dermal rabbit	> 3160 mg/kg
LC50 Inhalation - Rat	18 g/m³ (Exposure time: 4 h)
ATE US (oral)	3280 mg/kg body weight
ATE US (dermal)	3440 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	18 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

Cumene (98-82-8)	
LD50 oral rat	2910 mg/kg body weight
LD50 dermal rabbit	12300 µl/kg
LC50 Inhalation - Rat	39 mg/l (4 h, Rat, Male, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	2910 mg/kg body weight
ATE US (dermal)	10578 mg/kg body weight
ATE US (vapors)	39 mg/l/4h
ATE US (dust, mist)	39 mg/l/4h

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

benzene (71-43-2)	
LD50 oral rat	> 2000 mg/kg body weight
LD50 dermal rabbit	> 8200 mg/kg
LC50 Inhalation - Rat	44.66 mg/l/4h
ATE US (vapors)	44.66 mg/l/4h
ATE US (dust, mist)	44.66 mg/l/4h

xylene (1330-20-7)	
LD50 oral rat	3500 mg/kg
LD50 dermal rabbit	> 4350 mg/kg
LC50 Inhalation - Rat	29.08 mg/l/4h
ATE US (oral)	3500 mg/kg body weight
ATE US (gases)	4500 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

Ethyl alcohol (64-17-5)	
LD50 oral rat	7060 mg/kg
LC50 Inhalation - Rat	133.8 mg/l/4h
ATE US (oral)	7060 mg/kg body weight
ATE US (vapors)	133.8 mg/l/4h
ATE US (dust, mist)	133.8 mg/l/4h

methanol (67-56-1)	
LD50 oral rat	1187 – 2769 mg/kg
LD50 dermal rabbit	17100 mg/kg
LC50 Inhalation - Rat	128 mg/l air (BASF test, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))
LC50 Inhalation - Rat [ppm]	22500 ppm (Exposure time: 8 h)
LC50 Inhalation - Rat (Dust/Mist)	128.2 mg/l/4h
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

2-Nitropropane (79-46-9)	
LD50 oral rat	720 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat [ppm]	400 ppm/4h
ATE US (oral)	720 mg/kg body weight
ATE US (gases)	400 ppmV/4h
ATE US (dust, mist)	1.5 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.

toluene (108-88-3)	
pH	No data available in the literature

cyclohexane (110-82-7)	
pH	7 (5.2E-3 %, 24 °C)

n-hexane (110-54-3)	
pH	7 (0.001 %, 25 °C)

2-Methylbutane (78-78-4)	
pH	No data available in the literature

1,2,4-trimethylbenzene (95-63-6)	
pH	No data available in the literature

naphthalene (91-20-3)	
pH	No data available in the literature

benzene (71-43-2)	
pH	No data available in the literature

xylene (1330-20-7)	
pH	No data available in the literature

methanol (67-56-1)	
pH	No data available in the literature

Serious eye damage/irritation : Causes serious eye irritation.

toluene (108-88-3)	
pH	No data available in the literature

cyclohexane (110-82-7)	
pH	7 (5.2E-3 %, 24 °C)

n-hexane (110-54-3)	
pH	7 (0.001 %, 25 °C)

2-Methylbutane (78-78-4)	
pH	No data available in the literature

1,2,4-trimethylbenzene (95-63-6)	
pH	No data available in the literature

naphthalene (91-20-3)	
pH	No data available in the literature

benzene (71-43-2)	
pH	No data available in the literature

xylene (1330-20-7)	
pH	No data available in the literature

methanol (67-56-1)	
pH	No data available in the literature

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Suspected of causing genetic defects.

Carcinogenicity : May cause cancer.

Gasoline (8006-61-9)	
IARC group	2B - Possibly carcinogenic to humans

Petroleum Distillates (8002-05-9)	
IARC group	3 - Not classifiable

toluene (108-88-3)	
IARC group	3 - Not classifiable

Ethylbenzene (100-41-4)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity
In OSHA Hazard Communication Carcinogen list	Yes

Cumene (98-82-8)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen, Evidence of Carcinogenicity
In OSHA Hazard Communication Carcinogen list	Yes

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
In OSHA Hazard Communication Carcinogen list	Yes

benzene (71-43-2)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	Known Human Carcinogens, Evidence of Carcinogenicity
In OSHA Hazard Communication Carcinogen list	Yes
In OSHA Specifically Regulated Carcinogen list	Yes

xylene (1330-20-7)	
IARC group	3 - Not classifiable

Ethyl alcohol (64-17-5)	
IARC group	1 - Carcinogenic to humans

2-Nitropropane (79-46-9)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
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)

methanol (67-56-1)	
NOAEL (animal/male, F0/P)	< 1000 mg/kg body weight Animal: mouse, Animal sex: male

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.

toluene (108-88-3)	
STOT-single exposure	May cause drowsiness or dizziness.

cyclohexane (110-82-7)	
STOT-single exposure	May cause drowsiness or dizziness.

n-hexane (110-54-3)	
STOT-single exposure	May cause drowsiness or dizziness.

2-Methylbutane (78-78-4)	
STOT-single exposure	May cause drowsiness or dizziness.

1,2,4-trimethylbenzene (95-63-6)	
STOT-single exposure	May cause respiratory irritation.

Cumene (98-82-8)	
STOT-single exposure	May cause respiratory irritation.

methanol (67-56-1)	
STOT-single exposure	Causes damage to organs.

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.

toluene (108-88-3)	
LOAEL (oral,rat,90 days)	1250 mg/kg body weight Animal: rat, Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral,rat,90 days)	625 mg/kg body weight Animal: rat, Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEC (inhalation,rat,vapor,90 days)	2.355 mg/l air Animal: rat, Guideline: EU Method B.29 (Sub-Chronic Inhalation Toxicity:90-Day Study)
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)

benzene (71-43-2)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

xylene (1330-20-7)	
LOAEL (oral,rat,90 days)	150 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents), Guideline: EPA OPP 82-1 (90-Day Oral Toxicity)

Aspiration hazard : May be fatal if swallowed and enters airways.

Viscosity, kinematic : No data available

toluene (108-88-3)	
Viscosity, kinematic	No data available in the literature

cyclohexane (110-82-7)	
Viscosity, kinematic	1.16 mm²/s (26 °C, Calculated)

n-hexane (110-54-3)	
Viscosity, kinematic	No data available in the literature

2-Methylbutane (78-78-4)	
Viscosity, kinematic	0.31 – 0.52 mm²/s (20 °C, ASTM D445: Capillary viscometer)

1,2,4-trimethylbenzene (95-63-6)	
Viscosity, kinematic	0.843 mm²/s (20 °C)

Cumene (98-82-8)	
Viscosity, kinematic	0.74 mm²/s (38 °C)

naphthalene (91-20-3)	
Viscosity, kinematic	1 mm²/s (80 °C, OECD 114: Viscosity of Liquids)

benzene (71-43-2)	
Viscosity, kinematic	No data available in the literature

xylene (1330-20-7)	
Viscosity, kinematic	0.74 mm²/s (20 °C)

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.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects. Toxic to aquatic life.
Ecology - air : TA-Luft Klasse 5.2.7.1.1/II.

Gasoline (8006-61-9)	
LC50 - Fish [1]	56 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 - Crustacea [1]	7.6 mg/l (Exposure time: 48 h)

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])

toluene (108-88-3)	
LC50 - Fish [1]	15.22 – 19.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	5.46 – 9.83 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 - Fish [2]	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [2]	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	12.5 mg/l (Species: Pseudokirchneriella subcapitata [static])
EC50 96h - Algae [1]	> 433 mg/l (Species: Pseudokirchneriella subcapitata)
LOEC (chronic)	2.76 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d'
NOEC (chronic)	0.74 mg/l Test organisms (species): Ceriodaphnia dubia Duration: '7 d'
NOEC chronic fish	1.39 mg/l Test organisms (species): Oncorhynchus kisutch Duration: '40 d'

cyclohexane (110-82-7)	
LC50 - Fish [1]	3.96 – 5.18 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	0.9 mg/l (Equivalent or similar to OECD 202, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
LC50 - Fish [2]	23.03 – 42.07 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 72h - Algae [1]	9.317 mg/l (Equivalent or similar to OECD 201, Pseudokirchneriella subcapitata, Experimental value, Growth rate)

2-Methylbutane (78-78-4)	
LC50 - Fish [1]	3.1 mg/l (Exposure time: 96 h - Species: Oncorhynchus Mykiss)
EC50 - Crustacea [1]	2.3 mg/l (Exposure time: 48 h - Species: Daphnia magna)
ErC50 algae	10.7 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Static system, Fresh water, Read-across, GLP)

Ethylbenzene (100-41-4)	
LC50 - Fish [1]	11 – 18 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 - Crustacea [1]	1.8 – 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
EC50 72h - Algae [1]	4.6 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 72h - Algae [2]	2.6 – 11.3 mg/l (Species: Pseudokirchneriella subcapitata [static])
EC50 96h - Algae [1]	> 438 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 96h - Algae [2]	1.7 – 7.6 mg/l (Species: Pseudokirchneriella subcapitata [static])

1,2,4-trimethylbenzene (95-63-6)	
LC50 - Fish [1]	7.19 – 8.28 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 96h - Algae [1]	2.356 mg/l (ECOSAR, Algae, Fresh water, QSAR)

Cumene (98-82-8)	
LC50 - Fish [1]	6.04 – 6.61 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	0.6 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	4.8 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 - Crustacea [2]	7.9 – 14.1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
ErC50 algae	2.01 mg/l (EU Method C.3, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)

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'

benzene (71-43-2)	
LC50 - Fish [1]	10.7 – 14.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	8.76 – 15.6 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 - Fish [2]	5.3 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 - Crustacea [2]	10 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	29 mg/l (Species: Pseudokirchneriella subcapitata)
ErC50 algae	100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

xylene (1330-20-7)	
LC50 - Fish [1]	13.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	3.82 mg/l (Exposure time: 48 h - Species: water flea)
LC50 - Fish [2]	2.661 – 4.093 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 - Crustacea [2]	0.6 mg/l (Exposure time: 48 h - Species: Gammarus lacustris)
ErC50 algae	4.36 mg/l (OECD 201: Alga, Growth Inhibition Test, 73 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
NOEC chronic fish	> 1.3 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '56 d'

Ethyl alcohol (64-17-5)	
LC50 - Fish [1]	12 – 16 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 - Crustacea [1]	9268 – 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 - Crustacea [2]	2 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

methanol (67-56-1)	
LC50 - Fish [1]	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	> 10000 mg/l
LC50 - Fish [2]	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 96h - Algae [1]	≈ 22000 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	22000 mg/l 96 h
NOEC (chronic)	208 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

2-Nitropropane (79-46-9)	
LC50 - Fish [1]	< 210 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 72h - Algae [1]	1088 mg/l (Species: Desmodesmus subspicatus)

12.2. Persistence and degradability

toluene (108-88-3)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	2.15 g O_2/g substance
Chemical oxygen demand (COD)	2.52 g O_2/g substance

toluene (108-88-3)	
ThOD	3.13 g O_2/g substance
BOD (% of ThOD)	0.69

cyclohexane (110-82-7)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.22 g O_2/g substance
ThOD	3.425 g O_2/g substance

n-hexane (110-54-3)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
ThOD	3.52 g O_2/g substance

2-Methylbutane (78-78-4)	
Persistence and degradability	Readily biodegradable in water.
ThOD	3.55 g O_2/g substance

1,2,4-trimethylbenzene (95-63-6)	
Persistence and degradability	Not readily biodegradable in water.
Chemical oxygen demand (COD)	0.44 g O_2/g substance

Cumene (98-82-8)	
Persistence and degradability	Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.28 g O_2/g substance
Chemical oxygen demand (COD)	2.42 g O_2/g substance
ThOD	3.2 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

benzene (71-43-2)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	2.18 g O_2/g substance
Chemical oxygen demand (COD)	2.15 g O_2/g substance
ThOD	3.1 g O_2/g substance

xylene (1330-20-7)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.

methanol (67-56-1)	
Persistence and degradability	Not established.
Biochemical oxygen demand (BOD)	0.6 – 1.12 g O_2/g substance

methanol (67-56-1)	
Chemical oxygen demand (COD)	1.42 g O_2/g substance
ThOD	1.5 g O_2/g substance

12.3. Bioaccumulative potential

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

toluene (108-88-3)	
BCF - Fish [1]	90 (72 h, Leuciscus idus, Static system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	2.7
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

cyclohexane (110-82-7)	
BCF - Fish [1]	167 l/kg (Pimephales promelas, QSAR, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	3.44
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

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).

2-Methylbutane (78-78-4)	
Partition coefficient n-octanol/water (Log Pow)	3.2 – 3.3
Bioaccumulative potential	Potential for bioaccumulation (4 ≤ Log Kow ≤ 5).

isobutane (75-28-5)	
BCF - Fish [1]	1.57 – 1.97
Partition coefficient n-octanol/water (Log Pow)	2.88 (at 20 °C)

Ethylbenzene (100-41-4)	
BCF - Fish [1]	15
Partition coefficient n-octanol/water (Log Pow)	3.2

butane (106-97-8)	
Partition coefficient n-octanol/water (Log Pow)	2.89

1,2,4-trimethylbenzene (95-63-6)	
BCF - Fish [1]	243 (Pimephales promelas, QSAR)
Partition coefficient n-octanol/water (Log Pow)	3.63
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Cumene (98-82-8)	
BCF - Other aquatic organisms [1]	94.69 l/kg (BCFBAF v3.00, Calculated value)
Partition coefficient n-octanol/water (Log Pow)	3.7

Cumene (98-82-8)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

naphthalene (91-20-3)	
BCF - Fish [1]	30 – 430
Partition coefficient n-octanol/water (Log Pow)	3.6
Bioaccumulative potential	Not established.

benzene (71-43-2)	
BCF - Fish [1]	3.5 – 4.4
Partition coefficient n-octanol/water (Log Pow)	2.1
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

xylene (1330-20-7)	
BCF - Fish [1]	0.6 – 15
Partition coefficient n-octanol/water (Log Pow)	2.77 – 3.15
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Ethyl alcohol (64-17-5)	
Partition coefficient n-octanol/water (Log Pow)	-0.32

methanol (67-56-1)	
BCF - Fish [1]	< 10
Partition coefficient n-octanol/water (Log Pow)	-0.77
Bioaccumulative potential	Not established.

2-Nitropropane (79-46-9)	
BCF - Fish [1]	1 – 49

12.4. Mobility in soil

toluene (108-88-3)	
Surface tension	27.73 mN/m (25 °C, 0.05 %)
Ecology - soil	Low potential for adsorption in soil.

cyclohexane (110-82-7)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.89 (log Koc, Calculated value)
Ecology - soil	Low potential for adsorption 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.

2-Methylbutane (78-78-4)	
Surface tension	15.49 mN/m (25 °C, 100 vol %)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.9 (log Koc, Read-across)
Ecology - soil	Low potential for adsorption in soil.

1,2,4-trimethylbenzene (95-63-6)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.04 (log Koc, Calculated value)
Ecology - soil	Low potential for mobility in soil. May be harmful to plant growth, blooming and fruit formation.

Cumene (98-82-8)	
Surface tension	28.2 mN/m (20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.946 (log Koc, Calculated value)
Ecology - soil	Low potential for adsorption 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.

benzene (71-43-2)	
Surface tension	29 mN/m (20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.848 (log Koc, SRC PCKOCWIN v2.0, QSAR)
Ecology - soil	Highly mobile in soil.

xylene (1330-20-7)	
Surface tension	28.01 – 29.76 mN/m (25 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.73 (log Koc, Equivalent or similar to OECD 121, Read-across)
Ecology - soil	Low potential for adsorption in soil. May be harmful to plant growth, blooming and fruit formation.

methanol (67-56-1)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	-0.89 – -0.21 (log Koc, Calculated value)
Ecology - soil	Highly mobile 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.

Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.

Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

DOT NA No : UN1203

UN-No. (IMDG) : 1203

UN-No. (IATA) : 1203

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Gasoline

Proper Shipping Name (IMDG) : GASOLINE

Proper Shipping Name (IATA) : Gasoline

Transport document description (DOT) : UN1203 Gasoline, 3, II

Transport document description (IMDG) : UN 1203 GASOLINE, 3, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS

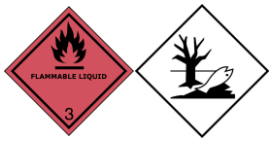
Transport document description (IATA) : UN 1203 Gasoline, 3, II, ENVIRONMENTALLY HAZARDOUS

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 3

Hazard labels (DOT) : 3



IMDG

Transport hazard class(es) (IMDG) : 3

Hazard labels (IMDG) : 3

IATA

Transport hazard class(es) (IATA) : 3

Hazard labels (IATA) : 3

14.4. Packing group

Packing group (DOT)	:	II
Packing group (IMDG)	:	II
Packing group (IATA)	:	II

14.5. Environmental hazards

Dangerous for the environment	:	Yes
Marine pollutant	:	Yes

Other information	:	No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT)	:	UN1203
DOT Special Provisions (49 CFR 172.102)	:	144 - If transported as a residue in an underground storage tank (UST), as defined in 40 CFR 280.12, that has been cleaned and purged or rendered inert according to the American Petroleum Institute (API) Standard 1604 (IBR, see 171.7 of this subchapter), then the tank and this material are not subject to any other requirements of this subchapter. However, sediments remaining in the tank that meet the definition for a hazardous material are subject to the applicable regulations of this subchapter. 177 - Gasoline, or, ethanol and gasoline mixtures, for use in internal combustion engines (e.g, in automobiles, stationary engines and other engines) must be assigned to Packing Group II regardless of variations in volatility. B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable. B33 - MC 300, MC 301, MC 302, MC 303, MC 305, MC 306, and DOT 406 cargo tanks equipped with a 1 psig normal vent used to transport gasoline must conform to Table I of this Special Provision. Based on the volatility class determined by using ASTM D 439 and the Reid vapor pressure (RVP) of the particular gasoline, the maximum lading pressure and maximum ambient temperature permitted during the loading of gasoline may not exceed that listed in Table I. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). 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. T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
DOT Packaging Exceptions (49 CFR 173.xxx)	:	150
DOT Packaging Non Bulk (49 CFR 173.xxx)	:	202
DOT Packaging Bulk (49 CFR 173.xxx)	:	242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	60 L
DOT Vessel Stowage Location	:	E - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.

IMDG

Special provision (IMDG)	:	243, 363
Limited quantities (IMDG)	:	1 L
Excepted quantities (IMDG)	:	E2
Packing instructions (IMDG)	:	P001
IBC packing instructions (IMDG)	:	IBC02
Tank instructions (IMDG)	:	T4
Tank special provisions (IMDG)	:	TP1
EmS-No. (Fire)	:	F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage)	:	S-E - SPILLAGE SCHEDULE Echo - FLAMMABLE LIQUIDS, FLOATING ON WATER
Stowage category (IMDG)	:	E
Properties and observations (IMDG)	:	Immiscible with water.

IATA

PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y341
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	353
PCA max net quantity (IATA)	:	5L
CAO packing instructions (IATA)	:	364
CAO max net quantity (IATA)	:	60L
Special provision (IATA)	:	A100
ERG code (IATA)	:	3H

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.		
Toluene	CAS-No. 108-88-3	0 – 60%
Cyclohexane	CAS-No. 110-82-7	0 – 50%
Hexane	CAS-No. 110-54-3	0 – 50%
Ethylbenzene	CAS-No. 100-41-4	0 – 40%
Benzene, 1,2,4-trimethyl-	CAS-No. 95-63-6	0 – 30%
Isopropylbenzene	CAS-No. 98-82-8	0 – 20%
Naphthalene	CAS-No. 91-20-3	0 – 20%
Benzene	CAS-No. 71-43-2	0 – 10%
Xylenes (o-, m-, p- isomers)	CAS-No. 1330-20-7	0 – 40%
Methanol	CAS-No. 67-56-1	0 – 40%
2-Nitropropane	CAS-No. 79-46-9	0 – 4%

toluene (108-88-3)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1000 lb

cyclohexane (110-82-7)	
CERCLA RQ	1000 lb

n-hexane (110-54-3)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

Ethylbenzene (100-41-4)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1000 lb

Cumene (98-82-8)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

naphthalene (91-20-3)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	100 lb

benzene (71-43-2)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	10 lb

xylene (1330-20-7)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	100 lb

methanol (67-56-1)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	5000 lb

2-Nitropropane (79-46-9)	
Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	10 lb

15.2. International regulations

CANADA

Gasoline (8006-61-9)

Listed on the Canadian DSL (Domestic Substances List)

Petroleum Distillates (8002-05-9)

Listed on the Canadian DSL (Domestic Substances List)

toluene (108-88-3)

Listed on the Canadian DSL (Domestic Substances List)

cyclohexane (110-82-7)

Listed on the Canadian DSL (Domestic Substances List)

n-hexane (110-54-3)

Listed on the Canadian DSL (Domestic Substances List)

2-Methylbutane (78-78-4)

Listed on the Canadian DSL (Domestic Substances List)

isobutane (75-28-5)

Listed on the Canadian DSL (Domestic Substances List)

Ethylbenzene (100-41-4)

Listed on the Canadian DSL (Domestic Substances List)

butane (106-97-8)

Listed on the Canadian DSL (Domestic Substances List)

1,2,4-trimethylbenzene (95-63-6)

Listed on the Canadian DSL (Domestic Substances List)

Cumene (98-82-8)

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

benzene (71-43-2)

Listed on the Canadian DSL (Domestic Substances List)

benzene (71-43-2)	
Toxic Substance (CEPA – Schedule I)	Yes

xylene (1330-20-7)
Listed on the Canadian DSL (Domestic Substances List)

Ethyl alcohol (64-17-5)
Listed on the Canadian DSL (Domestic Substances List)

methanol (67-56-1)
Listed on the Canadian DSL (Domestic Substances List)

2-Nitropropane (79-46-9)	
Listed on the Canadian DSL (Domestic Substances List)	
Toxic Substance (CEPA – Schedule I)	Yes

EU-Regulations

Gasoline (8006-61-9)
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)

toluene (108-88-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

cyclohexane (110-82-7)
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)

2-Methylbutane (78-78-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

isobutane (75-28-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Ethylbenzene (100-41-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

butane (106-97-8)

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

1,2,4-trimethylbenzene (95-63-6)

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

Cumene (98-82-8)

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)

benzene (71-43-2)

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

xylene (1330-20-7)

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

Ethyl alcohol (64-17-5)

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

methanol (67-56-1)

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

2-Nitropropane (79-46-9)

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

National regulations

Gasoline (8006-61-9)

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)

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)
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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)

toluene (108-88-3)

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 Poisonous and Deleterious Substances Control Law
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)

cyclohexane (110-82-7)

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
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Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
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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-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)
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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)

2-Methylbutane (78-78-4)

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)

isobutane (75-28-5)

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)

Ethylbenzene (100-41-4)

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)

butane (106-97-8)

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)

1,2,4-trimethylbenzene (95-63-6)

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)

Cumene (98-82-8)

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)

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)

benzene (71-43-2)

Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)
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)

xylene (1330-20-7)

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 Poisonous and Deleterious Substances Control Law
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)

Ethyl alcohol (64-17-5)

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)

methanol (67-56-1)

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 Poisonous and Deleterious Substances Control 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)

2-Nitropropane (79-46-9)

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)

15.3. US State regulations

Gasoline (8006-61-9)	
State or local regulations	U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List

WARNING: This product can expose you to Benzene, which is known to the State of California to cause cancer and 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
toluene(108-88-3)	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
cyclohexane(110-82-7)	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
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
2-Methylbutane(78-78-4)	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
isobutane(75-28-5)	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
Ethylbenzene(100-41-4)	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
butane(106-97-8)	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
1,2,4-trimethylbenzene(95-63-6)	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. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
Cumene(98-82-8)	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

Component	State or local regulations
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
benzene(71-43-2)	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. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances; U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Emission Levels (ELs); U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
xylene(1330-20-7)	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
Ethyl alcohol(64-17-5)	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
methanol(67-56-1)	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
2-Nitropropane(79-46-9)	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. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances; U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Emission Levels (ELs); U.S. - Idaho - Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 12/13/2022

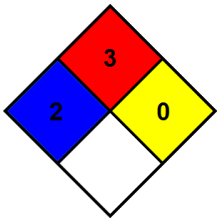
Full text of H-phrases	
H224	Extremely flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H341	Suspected of causing genetic defects
H350	May cause cancer

Full text of H-phrases	
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
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

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



Safety Data Sheet (SDS), USA