Octane Booster

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Issue date: 4/24/2025 Revision date: 12/18/2025 Supersedes: 10/13/2025 Version: 5.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Octane Booster
Part Number : 10026

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Fuel additives

1.4. Supplier's details

Lucas Oil Products, Inc.
3199 Harrison Way NW
Corydon, IN 47112
USA
T 800-342-2512
sds@lucasoil.com - www.LucasOil.com

1.5. Emergency phone number

Emergency number : For Chemical Emergency Call ChemTel 24hr/day 7days/week
Within USA, Canada, Puerto Rico and US Virgin Islands: 1-800-255-3924
International: 1-813-248-0585
(collect calls accepted)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquid, Category 4	H227	Combustible liquid.
Acute toxicity (oral), Category 4	H302	Harmful if swallowed.
Acute toxicity (inhalation:dust,mist), Category 4	H332	Harmful if inhaled.
Carcinogenicity, Category 2	H351	Suspected of causing cancer.
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

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : H227 - Combustible liquid
H302+H332 - Harmful if swallowed or if inhaled
H304 - May be fatal if swallowed and enters airways

		H351 - Suspected of causing cancer. H401 - Toxic to aquatic life H411 - 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. P261 - Avoid breathing dust, fume, gas, mist, vapors, spray. P264 - Wash hands, forearms and face thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. 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, and hearing protection. P301+P310 - If swallowed: Immediately call a poison center or doctor. P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell. P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing. P308+P313 - If exposed or concerned: Get medical advice/attention. P312 - Call a poison center or doctor if you feel unwell. P330 - Rinse mouth. P331 - Do NOT induce vomiting. P370+P378 - In case of fire: Use appropriate media to extinguish. P391 - Collect spillage. P403 - Store in a well-ventilated place. P405 - Store locked up. P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Distillates (petroleum), hydrotreated heavy paraffinic	CAS-No.: 64742-54-7	30 - 60*	Asp. Tox. 1, H304
Distillates (petroleum), hydrotreated light	CAS-No.: 64742-47-8	30 - 60*	Asp. Tox. 1, H304
Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-	CAS-No.: 12108-13-3	1 - 5*	Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Dermal), H310 Acute Tox. 1 (Inhalation), H330 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Solvent naphtha (petroleum), heavy arom.	CAS-No.: 64742-94-5	1 - 5*	Asp. Tox. 1, H304

Name	Product identifier	%	GHS US classification
Naphthalene	CAS-No.: 91-20-3	0.095 - 0.235	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret
Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary 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.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.
Personal protection for first-aid responders. : First aid workers will be equipped with suitable personal protective equipment.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : Harmful if inhaled.
Symptoms/effects after skin contact : None under normal conditions.
Symptoms/effects after eye contact : None under normal conditions.
Symptoms/effects after ingestion : Harmful if swallowed. Risk of lung edema.

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

Other medical advice or treatment : 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 : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : Combustible liquid.
Explosion hazard : No direct explosion hazard.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
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

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing dust/fume/gas/mist/vapors/spray.

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".
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

Environmental precautions : Avoid release to the environment.

6.2. Methods and materials for containment and cleaning up

For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.
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.

For further information refer to section 13.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.
Storage conditions : Store in a well-ventilated place. Keep cool. Store locked up.
Packaging materials : Always store product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)	
USA - ACGIH® - Threshold Limit Values	
Local name	2-Methylcyclopentadienyl manganese tricarbonyl, as Mn
ACGIH® TLV® TWA	0.2 mg/m³
Remark (ACGIH®)	TLV® Basis: CNS impair; lung, liver, & kidney dam. Notations: Skin
Regulatory reference	ACGIH 2024
USA - Cal/OSHA - Occupational Exposure Limits	
Local name	2-Methylcyclopentadienyl manganese tricarbonyl, as Mn

Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)	
Cal/OSHA PEL (OEL TWA)	0.2 mg/m³
Remark (Cal/OSHA)	S - Skin notation and Protecting Clothing
Regulatory reference	California Division of Occupational Safety and Health (Cal/OSHA) - Permissible Exposure Limit for Chemical Contaminants (Table AC-1)

Naphthalene (91-20-3)	
USA - ACGIH® - Threshold Limit Values	
Local name	Naphthalene
ACGIH® TLV® TWA	52 mg/m³
	10 ppm
Remark (ACGIH®)	TLV® Basis: URT irr; Cataracts; Hemolytic anemia. Notations: Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans); BEI
Regulatory reference	ACGIH 2025
USA - ACGIH® - Biological Exposure Indices	
Local name	Naphthalene
BEI	Parameter: 1-Naphthol + 2-Naphthol - Sampling time: End of shift - Notations: Nq, Ns
Regulatory reference	ACGIH 2025
USA - OSHA - Occupational Exposure Limits	
Local name	Naphthalene
OSHA PEL TWA	50 mg/m³
	10 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - Cal/OSHA - Occupational Exposure Limits	
Local name	Naphthalene
Cal/OSHA PEL (OEL TWA)	0.5 mg/m³
	0.1 ppm
Remark (Cal/OSHA)	S - Skin notation and Protecting Clothing
Regulatory reference	California Division of Occupational Safety and Health (Cal/OSHA) - Permissible Exposure Limit for Chemical Contaminants (Table AC-1)
USA - NIOSH - Occupational Exposure Limits	
Local name	Naphthalene
NIOSH REL 10h TWA	10 ppm
NIOSH REL STEL	15 ppm
Regulatory reference (US-NIOSH)	OSHA Annotated Table Z-1 (NIOSH Pocket Guide to Chemical Hazards (NPG))

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, such as personal protective equipment

Personal protective equipment:
Wear recommended personal protective equipment.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Color	:	Black
Odor	:	There may be no odor warning properties, odor is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odor: Pleasant odour Mild odour Aromatic odour Solvent-like odour Tar odour Camphor odour
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	170 °F
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	0.851
Density	:	7.111 lb/gal
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	:	8.327 mm²/s 40 ° C
Explosion limits	:	No data available
Particle characteristics	:	Particle size : Not Applicable

9.2. Data relevant with regard to physical hazard classes (supplemental)

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

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) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Inhalation:dust,mist: Harmful if inhaled.

Octane Booster	
ATE US (oral)	1308.921 mg/kg body weight
ATE US (dust, mist)	1.996 mg/l/4h

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LD50 dermal rabbit	> 5000 mg/kg Source: IUCLID

Distillates (petroleum), hydrotreated light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg body weight Animal: rat, Guideline: EPA OTS 798.1175 (Acute Oral Toxicity), Guideline: OECD Guideline 420 (Acute Oral Toxicity - Fixed Dose Method)
LD50 oral	15000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg body weight Animal: rabbit, Guideline: EPA OTS 798.1100 (Acute Dermal Toxicity), Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 5.28 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), 95% CL: 0,42 -
LC50 Inhalation - Rat (Dust/Mist)	> 5.2 mg/l Source: IUCLID
ATE US (oral)	15000 mg/kg body weight

Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)	
LD50 oral rat	51.8 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity)

Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)	
LD50 dermal rabbit	140 mg/kg (Equivalent or similar to OECD 402, Rabbit, Experimental value, Dermal, 14 day(s))
LD50 dermal	212.7 mg/kg
LC50 Inhalation - Rat	0.08 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Male, Experimental value, Inhalation (vapours), 14 day(s))
LC50 Inhalation - Rat (Vapors)	0.08 mg/l/4h
ATE US (oral)	51.8 mg/kg body weight
ATE US (dermal)	140 mg/kg body weight
ATE US (gases)	10 ppmV/4h
ATE US (vapors)	0.08 mg/l/4h
ATE US (dust, mist)	0.08 mg/l/4h

Solvent naphtha (petroleum), heavy arom. (64742-94-5)	
LD50 oral rat	> 5000 mg/kg Source: IUCLID
LD50 oral	3690 mg/kg
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: other:
LD50 dermal rabbit	> 2000 mg/kg body weight Animal: rabbit, Guideline: EPA OTS 798.1100 (Acute Dermal Toxicity)
LD50 dermal	4100 mg/kg
ATE US (oral)	3690 mg/kg body weight
ATE US (dermal)	4100 mg/kg body weight

Naphthalene (91-20-3)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
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	2500 mg/kg Source: ChemIDplus
LD50 dermal	2500 mg/kg
ATE US (oral)	533 mg/kg body weight
ATE US (dermal)	2500 mg/kg body weight

Skin corrosion/irritation : Not classified

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

Serious eye damage/irritation : Not classified

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.

Naphthalene (91-20-3)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicity Program (NTP) Status	Reasonably anticipated to be Human Carcinogen

Reproductive toxicity : Not classified

Distillates (petroleum), hydrotreated light (64742-47-8)	
NOAEL (animal/male, F0/P)	≥ 3000 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 415 [One-Generation Reproduction Toxicity Study (before 9 October 2017)]

Solvent naphtha (petroleum), heavy arom. (64742-94-5)	
NOAEL (animal/male, F0/P)	35 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:
NOAEL (animal/female, F0/P)	125 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test), Guideline: other:

Naphthalene (91-20-3)	
LOAEL (animal/female, F0/P)	50 mg/kg body weight Animal: rat, Animal sex: female, Guideline: other:
LOAEL (animal/female, F1)	450 mg/kg body weight Animal: rat, Animal sex: female, Guideline: other:
NOAEL (animal/female, F0/P)	120 mg/kg body weight Animal: rabbit, Animal sex: female, Guideline: other:

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LOAEL (oral,rat,90 days)	125 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEC (inhalation,rat,dust/mist/fume,90 days)	> 0.98 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study)

Distillates (petroleum), hydrotreated light (64742-47-8)	
NOAEL (oral,rat,90 days)	750 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (dermal,rat/rabbit,90 days)	≥ 495 mg/kg body weight Animal: rat, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)

Solvent naphtha (petroleum), heavy arom. (64742-94-5)	
LOAEC (inhalation,rat,vapor,90 days)	4.71 mg/l air Animal: rat, Guideline: EU Method B.29 (Sub-Chronic Inhalation Toxicity:90-Day Study)
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)

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 Study 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 (oral,rat,90 days)	200 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Naphthalene (91-20-3)	
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.

Octane Booster	
Viscosity, kinematic	8.327 mm²/s 40 ° C

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Viscosity, kinematic	18 mm²/s
Hydrocarbon	Yes
Aliphatic, alicyclic or aromatic hydrocarbon	Yes
Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)	
Viscosity, kinematic	3.65 mm²/s
Solvent naphtha (petroleum), heavy arom. (64742-94-5)	
Viscosity, kinematic	2.235 mm²/s
Naphthalene (91-20-3)	
Viscosity, kinematic	1 mm²/s (80 °C, OECD 114: Viscosity of Liquids)

Symptoms/effects after inhalation : Harmful if inhaled.
Symptoms/effects after skin contact : None under normal conditions.
Symptoms/effects after eye contact : None under normal conditions.
Symptoms/effects after ingestion : Harmful if swallowed. Risk of lung edema.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general : Toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short–term (acute) : Toxic to aquatic life.
Hazardous to the aquatic environment, long–term (chronic) : Toxic to aquatic life with long lasting effects.

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
LC50 - Fish [1]	> 5000 mg/l
EC50 - Crustacea [1]	> 1000 mg/l Source: IUCLID
EC50 96h - Algae [1]	> 1000 mg/l Source: IUCLID

Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)	
LC50 - Fish [1]	0.21 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Cyprinus carpio, Semi-static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	0.83 mg/l (EPA OTS 797.1300, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 96h - Algae [1]	> 0.46 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

Naphthalene (91-20-3)	
LC50 - Fish [1]	0.96 ppm (Oncorhynchus gorbuscha, Flow-through system, Salt water, Experimental value, Lethal)

Naphthalene (91-20-3)	
EC50 - Crustacea [1]	2.16 mg/l (Equivalent or similar to OECD 202, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
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	0.12 mg/l
NOEC chronic crustacea	3 mg/l

12.2. Persistence and degradability

Octane Booster	
Persistence and degradability	Not rapidly degradable

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Persistence and degradability	Not rapidly degradable

Distillates (petroleum), hydrotreated light (64742-47-8)	
Persistence and degradability	Not rapidly degradable

Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)	
Persistence and degradability	Not readily biodegradable in water.

Solvent naphtha (petroleum), heavy arom. (64742-94-5)	
Persistence and degradability	Not readily biodegradable in water.

Naphthalene (91-20-3)	
Persistence and degradability	Readily biodegradable in the soil, Readily biodegradable in water.
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

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)	
Partition coefficient n-octanol/water (Log Pow)	3.9 – 6 Source: IUCLID

Distillates (petroleum), hydrotreated light (64742-47-8)	
Partition coefficient n-octanol/water (Log Pow)	3.3 – 6 Source: IUCLID

Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)	
BCF - Fish [1]	400 (24 h, Static system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	3.4 (Practical experience/observation, 26 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Solvent naphtha (petroleum), heavy arom. (64742-94-5)	
Partition coefficient n-octanol/water (Log Pow)	2.9 – 6.1
Bioaccumulative potential	Bioaccumable.

Naphthalene (91-20-3)	
BCF - Fish [1]	23 – 168 (OECD 305: Bioconcentration: Flow-Through Fish Test, 8 week(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	3.4 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.4 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)
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

Ozone : Not classified
Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.
Ecological waste information : The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way. Consider the handling and disposal of the waste as defined by the product itself.

SECTION 14 Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
NA1993	UN3082	UN3082	UN3082
14.2. Proper Shipping Name			
Combustible liquid, n.o.s.(Petroleum Distillates) (Distillates (petroleum), hydrotreated light; Solvent naphtha (petroleum), heavy arom.; Methyl cyclopentadienyl manganese tricarbonyl)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. Methylcyclopentadienyl manganese tricarbonyl	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. Methylcyclopentadienyl manganese tricarbonyl	Environmentally hazardous substance, liquid, n.o.s. Methylcyclopentadienyl manganese tricarbonyl

DOT	TDG	IMDG	IATA
14.3. Transport hazard class(es)			
Combustible liquid	9	9	9
			
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
No supplementary information available			

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

Transport regulations (DOT) : Combustible liquid, n.o.s.(Petroleum Distillates)

UN-No. (DOT) : NA1993

DOT Special Provisions (49 CFR 172.102) : 148 - Except for transportation by aircraft, when transported as a limited quantity or a consumer commodity, the maximum net capacity specified in §173.150(b)(2) of this subchapter for inner packaging may be increased to 5 L (1.3 gallons).
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)
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

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.

TDG

UN-No. (TDG) : UN3082

TDG Special Provisions	:	16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the danger or dangers posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS,99 - (1) Mixtures of solids that are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, may be offered for transport, handled or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means of containment and during transport. (2) These Regulations, except for Parts 1 and 2, do not apply to the offering for transport, handling or transport of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no release of the dangerous goods that could endanger public safety.
Explosive Limit and Limited Quantity Index	:	5 L
Excepted quantities (TDG)	:	E1

IMDG

Special provision (IMDG)	:	274, 335, 969, 375
Limited quantities (IMDG)	:	5 L
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	LP01, P001
Packing provisions (IMDG)	:	PP1
IBC packing instructions (IMDG)	:	IBC03
Tank instructions (IMDG)	:	T4
Tank special provisions (IMDG)	:	TP1, 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

Special provision (IATA)	:	A97, A158, A197, A215
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
ERG code (IATA)	:	9L

SECTION 15 Regulatory information

15.1. 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.		
Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]-	CAS-No. 12108-13-3	1 - 5*%
Naphthalene	CAS-No. 91-20-3	0.095 - 0.235%

Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	100 lb

Naphthalene (91-20-3)	
Listed on EPA Hazardous Air Pollutant (HAPS) Listed on EPA HAPs Chronic Dose Response Assessment List - Carcinogens Listed on EPA HAPs Acute Dose Response Assessment List – Exposure limits	
CERCLA RQ	100 lb

15.2. International regulations

CANADA

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

Listed on the Canadian DSL (Domestic Substances List)

Distillates (petroleum), hydrotreated light (64742-47-8)

Listed on the Canadian DSL (Domestic Substances List)

Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)

Listed on the Canadian DSL (Domestic Substances List)

Solvent naphtha (petroleum), heavy arom. (64742-94-5)

Listed on the Canadian DSL (Domestic Substances List)

Naphthalene (91-20-3)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Distillates (petroleum), hydrotreated heavy paraffinic (64742-54-7)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Distillates (petroleum), hydrotreated light (64742-47-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Manganese, tricarbonyl[(1,2,3,4,5-η)-1-methyl-2,4-cyclopentadien-1-yl]- (12108-13-3)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Solvent naphtha (petroleum), heavy arom. (64742-94-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Naphthalene (91-20-3)

Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)
Listed on EPA HAPs Chronic Dose Response Assessment List - Carcinogens
Listed on EPA HAPs Acute Dose Response Assessment List – Exposure limits
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. State regulations

WARNING: This product can expose you to Naphthalene, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16 Other information

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Revision date : 12/18/2025
Issue date : 4/24/2025

Full text of hazard classes and H-statements	
H227	Combustible liquid
H301	Toxic if swallowed
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H310	Fatal in contact with skin
H330	Fatal if inhaled
H332	Harmful if inhaled
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.