

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : PDO-5221

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Smart Chemical Solutions, LLC
2708 NE Main St.
Ennis, TX 75119
T (806) 367-8031

1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapor
Acute toxicity (inhalation:dust,mist) Category 3	H331	Toxic if inhaled
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Germ cell mutagenicity Category 1B	H340	May cause genetic defects
Carcinogenicity Category 1B	H350	May cause cancer
Specific target organ toxicity (single exposure) Category 1	H370	Causes damage to organs
Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336	May cause drowsiness or dizziness
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs through prolonged or repeated exposure
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. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H225 – Highly flammable liquid and vapor
H315 – Causes skin irritation
H331 – Toxic if inhaled
H336 – May cause drowsiness or dizziness
H340 – May cause genetic defects
H350 – May cause cancer
H370 – Causes damage to organs
H373 – May cause damage to organs through prolonged or repeated exposure

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Precautionary statements (GHS US)

H401 – Toxic to aquatic life
H411 – Toxic to aquatic life with long lasting effects
: P201 – Obtain special instructions before use.
P202 – Do not handle until all safety precautions have been read and understood.
P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 – Keep container tightly closed.
P240 – Ground/Bond container and receiving equipment.
P241 – Use explosion-proof electrical/ventilating/lighting equipment.
P242 – Use only non-sparking tools.
P243 – Take precautionary measures against static discharge.
P260 – Do not breathe dust/fume/gas/mist/vapors/spray.
P261 – Avoid breathing dust, fume, gas, mist, vapors, spray.
P264 – Wash hands, forearms and face thoroughly after handling.
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.
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.
P307+P311 – If exposed: Call a poison center/doctor.
P308+P313 – If exposed or concerned: Get medical advice/attention.
P311 – Call a poison center or doctor.
P312 – Call a poison center or doctor if you feel unwell.
P314 – Get medical advice/attention if you feel unwell.
P321 – Specific treatment (see supplemental first aid instruction on this label).
P332+P313 – If skin irritation occurs: Get medical advice/attention.
P362+P364 – Take off contaminated clothing and wash it before reuse.
P370+P378 – In case of fire: Use media other than water 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)

18% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
54.75% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
45.75% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3 : Composition/Information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	GHS US classification
Xylene	CAS-No.: 1330-20-7	15 – 54	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Aquatic Acute 2, H401
n-Hexane	CAS-No.: 110-54-3	9 – 30	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
Toluene	CAS-No.: 108-88-3	6 – 30	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401
Solvent Naphtha (petroleum), heavy arom.	CAS-No.: 64742-94-5	0.3 – 12	Flam. Liq. 4, H227 Acute Tox. 3 (Inhalation:dust,mist), H331 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Heptane	CAS-No.: 64742-49-0	0.3 – 6	Flam. Liq. 2, H225 Muta. 1B, H340 Carc. 1B, H350 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
Methanol	CAS-No.: 67-56-1	0.3 – 6	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
Isopropanol	CAS-No.: 67-63-0	0.3 – 6	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
Acetone	CAS-No.: 67-64-1	0.3 – 3	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

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

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a doctor.

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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 eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.

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

Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after skin contact	: Irritation.

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.
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5.2. Specific hazards arising from the chemical

Fire hazard	: Highly 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.
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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.
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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 ».
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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.

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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

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No additional information available

n-Hexane (110-54-3)

USA – ACGIH – Occupational Exposure Limits

Local name	n-Hexane
ACGIH OEL TWA [ppm]	50 ppm
Remark (ACGIH)	TLV® Basis: CNS impair; peripheral neuropathy; eye irr. Notations: Skin; BEI
Regulatory reference	ACGIH 2022

USA – ACGIH – Biological Exposure Indices

Local name	n-HEXANE
BEI	0.5 mg/l Parameter: 2,5-Hexanedione (without hydrolysis) – Medium: urine – Sampling time: End of shift
Regulatory reference	ACGIH 2022

USA – OSHA – Occupational Exposure Limits

Local name	n-Hexane
OSHA PEL TWA [1]	1800 mg/m ³
OSHA PEL TWA [2]	500 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

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Toluene (108-88-3)	
USA – ACGIH – Occupational Exposure Limits	
Local name	Toluene
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	TLV® Basis: CNS, visual & hearing impair; female repro system eff; pregnancy loss. Notations: OTO; A4 (Not classifiable as a Human Carcinogen); BEI
Regulatory reference	ACGIH 2022
USA – ACGIH – Biological Exposure Indices	
Local name	TOLUENE
BEI	0.3 mg/g Kreatinin Parameter: o-Cresol (with hydrolysis) – Medium: urine – Sampling time: End of shift – Notations: B 0.03 mg/l Parameter: Toluene – Medium: urine – Sampling time: End of shift 0.02 mg/l Parameter: Toluene – Medium: blood – Sampling time: Prior to last shift of workweek
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 10 mins.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-2
Acetone (67-64-1)	
USA – ACGIH – Occupational Exposure Limits	
Local name	Acetone
ACGIH OEL TWA [ppm]	250 ppm
ACGIH OEL STEL [ppm]	500 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr; CNS impair. Notations: A4 (Not classifiable as a Human Carcinogen); BEI
Regulatory reference	ACGIH 2022
USA – ACGIH – Biological Exposure Indices	
Local name	ACETONE
BEI	25 mg/l Parameter: Acetone – Medium: urine – Sampling time: End of shift – Notations: Ns
Regulatory reference	ACGIH 2022
USA – OSHA – Occupational Exposure Limits	
Local name	Acetone
OSHA PEL TWA [1]	2400 mg/m ³
OSHA PEL TWA [2]	1000 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Heptane (64742-49-0)	
No additional information available	

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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)	TLV® Basis: Headache; eye dam; dizziness; nausea. Notations: Skin; BEI
Regulatory reference	ACGIH 2022
USA – ACGIH – Biological Exposure Indices	
Local name	METHANOL
BEI	15 mg/l Parameter: Methanol – Medium: urine – Sampling time: End of shift – Notations: B, Ns
Regulatory reference	ACGIH 2022
USA – OSHA – Occupational Exposure Limits	
Local name	Methyl alcohol
OSHA PEL TWA [1]	260 mg/m ³
OSHA PEL TWA [2]	200 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Isopropanol (67-63-0)	
USA – ACGIH – Occupational Exposure Limits	
Local name	2-Propanol
ACGIH OEL TWA [ppm]	200 ppm
ACGIH OEL STEL [ppm]	400 ppm
Remark (ACGIH)	TLV® Basis: Eye & URT irr; CNS impair. Notations: A4 (Not classifiable as a Human Carcinogen); BEI
Regulatory reference	ACGIH 2022
USA – ACGIH – Biological Exposure Indices	
Local name	2-PROPANOL
BEI	40 mg/l Parameter: Acetone – Medium: urine – Sampling time: End of shift at end of workweek – Notations: B, Ns
Regulatory reference	ACGIH 2022
USA – OSHA – Occupational Exposure Limits	
Local name	Isopropyl alcohol
OSHA PEL TWA [1]	980 mg/m ³
OSHA PEL TWA [2]	400 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Solvent Naphtha (petroleum), heavy arom. (64742-94-5)	
No additional information available	

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Xylene (1330-20-7)

USA – ACGIH – Occupational Exposure Limits

Local name	Xylene, mixed isomers (Dimethylbenzene)
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr; hematologic eff; ototoxicity (for mixtures containing p-xylene); CNS impair. Notations: OTO (for mixtures containing p-xylene); A4 (Not classifiable as a Human Carcinogen); BEI
Regulatory reference	ACGIH 2022

USA – ACGIH – Biological Exposure Indices

Local name	XYLENES (Technical or commercial grade)
BEI	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/m ³
OSHA PEL TWA [2]	100 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

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):



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SECTION 9 : Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear. Liquid.
Color	: Colorless
Odor	: There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: Petroleum-like odour Mild odour Aromatic odour Pleasant odour Sweet odour Fruity odour Characteristic odour Alcohol odour Commercial/unpurified substance: irritating/pungent odour Stuffy 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	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 6.676 – 6.976
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

Highly 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

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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)	: Toxic if inhaled.

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ATE US (dust, mist)	0.716 mg/l/4h
Unknown acute toxicity (GHS US)	18% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 54.75% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 45.75% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

n-Hexane (110-54-3)

LD50 oral rat	16000 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LD50 dermal rat	> 2000 mg/kg Source: ECHA
LD50 dermal rabbit	> 3350 mg/kg body weight (Equivalent or similar to OECD 402, 4 h, Rabbit, Male, Read-across, Dermal, 14 day(s))
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)	16000 mg/kg body weight

Toluene (108-88-3)

LD50 oral rat	5580 mg/kg body weight (Equivalent or similar to EU Method B.1, Rat, Male, Experimental value, Oral, 7 day(s))
LD50 dermal rabbit	> 5000 mg/kg body weight (24 h, Rabbit, Male, Experimental value, Dermal)
LC50 Inhalation – Rat	28.1 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))
LC50 Inhalation – Rat (Vapours)	> 20 mg/l Source : ECHA
ATE US (oral)	5580 mg/kg body weight

Acetone (67-64-1)

LD50 oral rat	5800 mg/kg (Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 15800 mg/kg body weight (24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	76 mg/l (4 h, Rat, Female, Weight of evidence, Inhalation (vapours))
LC50 Inhalation - Rat (Vapours)	76 mg/l Source: ECHA
ATE US (oral)	5800 mg/kg body weight
ATE US (vapors)	76 mg/l/4h
ATE US (dust, mist)	76 mg/l/4h

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Heptane (64742-49-0)	
LD50 oral rat	> 5000 mg/kg Source: IUCLID
LD50 dermal rabbit	> 3160 mg/kg Source: IUCLID
LC50 Inhalation - Rat [ppm]	73680 ppm Source: IUCLID
ATE US (gases)	73680 ppmV/4h

Methanol (67-56-1)	
LD50 oral rat	1187 – 2769 mg/kg body weight (BASF test, Rat, Male / female, Experimental value, Aqueous solution, Oral, 7 day(s))
LD50 dermal rabbit	300 mg/kg Source: ECHA
LC50 Inhalation - Rat	128 mg/l air (BASF test, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))
ATE US (oral)	1187 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

Isopropanol (67-63-0)	
LD50 oral rat	5840 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	16400 ml/kg (Equivalent or similar to OECD 402, 24 h, Rabbit, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat [ppm]	> 10000 ppm (Equivalent or similar to OECD 403, 6 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	5840 mg/kg body weight
ATE US (dermal)	12890400 mg/kg body weight

Solvent Naphtha (petroleum), heavy arom. (64742-94-5)	
LD50 oral rat	> 5000 mg/kg Source: IUCLID
LD50 dermal rabbit	> 2000 mg/kg Source: RTECS
LC50 Inhalation - Rat (Dust/Mist)	> 0.59 mg/l Source: RTECS
ATE US (dust, mist)	0.5 mg/l/4h

Xylene (1330-20-7)	
LD50 oral rat	3523 mg/kg Source: ECHA
LD50 dermal rabbit	12126 mg/kg body weight Animal: rabbit, Animal sex: male, Remarks on results: other:
LC50 Inhalation - Rat [ppm]	5922 ppm
ATE US (oral)	3523 mg/kg body weight
ATE US (dermal)	12126 mg/kg body weight
ATE US (gases)	5922 ppmV/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	1.5 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.

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n-Hexane (110-54-3)	
pH	7 (0.001 %, 25 °C)
Toluene (108-88-3)	
pH	No data available in the literature
Acetone (67-64-1)	
pH	5 – 6 (20 °C)
Methanol (67-56-1)	
pH	No data available in the literature
Isopropanol (67-63-0)	
pH	No data available in the literature
Serious eye damage/irritation	: Not classified
n-Hexane (110-54-3)	
pH	7 (0.001 %, 25 °C)
Toluene (108-88-3)	
pH	No data available in the literature
Acetone (67-64-1)	
pH	5 – 6 (20 °C)
Methanol (67-56-1)	
pH	No data available in the literature
Isopropanol (67-63-0)	
pH	No data available in the literature
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: May cause cancer.
Toluene (108-88-3)	
IARC group	3 - Not classifiable
Isopropanol (67-63-0)	
IARC group	3 - Not classifiable
Xylene (1330-20-7)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: Causes damage to organs. May cause drowsiness or dizziness.
n-Hexane (110-54-3)	
STOT-single exposure	May cause drowsiness or dizziness.
Toluene (108-88-3)	
STOT-single exposure	May cause drowsiness or dizziness.
Acetone (67-64-1)	
STOT-single exposure	May cause drowsiness or dizziness.

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Methanol (67-56-1)

STOT-single exposure Causes damage to organs.

Isopropanol (67-63-0)

STOT-single exposure May cause drowsiness or dizziness.

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.

Toluene (108-88-3)

STOT-repeated exposure May cause 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 Study in Rodents), Guideline: EPA OPP 82-1 (90-Day Oral Toxicity)

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

n-Hexane (110-54-3)

Viscosity, kinematic No data available in the literature

Toluene (108-88-3)

Viscosity, kinematic No data available in the literature

Acetone (67-64-1)

Viscosity, kinematic No data available in the literature

Isopropanol (67-63-0)

Viscosity, kinematic No data available in the literature

Symptoms/effects : May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

n-Hexane (110-54-3)

LC50 - Fish [1] > 1 mg/l Source: ECHA

Toluene (108-88-3)

LC50 - Fish [1] 5.5 mg/l (96 h, Oncorhynchus kisutch, Flow-through system, Fresh water, Experimental value, Lethal)

EC50 - Crustacea [1] 3.78 mg/l Source: ECHA

Acetone (67-64-1)

LC50 - Fish [1] 6210 – 8120 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Measured concentration)

LOEC (chronic) > 79 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

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Acetone (67-64-1)

NOEC (chronic)	≥ 79 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
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Heptane (64742-49-0)

LC50 - Other aquatic organisms [1]	2.6 mg/l Source: IUCLID
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Methanol (67-56-1)

LC50 - Fish [1]	15400 mg/l (EPA 660/3 - 75/009, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	18260 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 96 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Locomotor effect)
EC50 96h - Algae [1]	22000 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)

Isopropanol (67-63-0)

LC50 - Fish [1]	9640 – 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
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Solvent Naphtha (petroleum), heavy arom. (64742-94-5)

LC50 - Fish [1]	45 mg/l Source: IUCLID
EC50 - Crustacea [1]	0.95 mg/l Source: IUCLID
EC50 72h - Algae [1]	2.5 mg/l Source: IUCLID

Xylene (1330-20-7)

LC50 - Fish [1]	2.6 mg/l Source: ECHA
EC50 - Crustacea [1]	> 3.4 mg/l Test organisms (species): Ceriodaphnia dubia
LOEC (chronic)	3.16 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	> 1.3 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '56 d'

12.2. Persistence and degradability

n-Hexane (110-54-3)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
ThOD	3.52 g O ₂ /g substance

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
ThOD	3.13 g O ₂ /g substance
BOD (% of ThOD)	0.69

Acetone (67-64-1)

Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.43 g O ₂ /g substance

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Acetone (67-64-1)	
Chemical oxygen demand (COD)	1.92 g O ₂ /g substance
ThOD	2.2 g O ₂ /g substance

Methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.6 – 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.5 g O ₂ /g substance

Isopropanol (67-63-0)	
Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.19 g O ₂ /g substance
Chemical oxygen demand (COD)	2.23 g O ₂ /g substance
ThOD	2.4 g O ₂ /g substance

12.3. Bioaccumulative potential

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).

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)	2.73 (Experimental value, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Acetone (67-64-1)	
BCF - Fish [1]	0.69 (Pisces, Literature study)
Partition coefficient n-octanol/water (Log Pow)	-0.23 (Test data)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Heptane (64742-49-0)	
Partition coefficient n-octanol/water (Log Pow)	2.1 – 6 Source: IUCLID

Methanol (67-56-1)	
BCF - Fish [1]	1 – 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	-0.77 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Isopropanol (67-63-0)	
Partition coefficient n-octanol/water (Log Pow)	0.05 (Weight of evidence approach, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

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

Partition coefficient n-octanol/water (Log Pow)	2.9 – 6.1 Source: IUCLID
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Xylene (1330-20-7)

Partition coefficient n-octanol/water (Log Pow)	3.15 Source: HSDB
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12.4. Mobility in soil

n-Hexane (110-54-3)

Mobility in soil	2187.76 Source: ECHA
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.

Toluene (108-88-3)

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

Acetone (67-64-1)

Surface tension	23.3 mN/m (20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.374 – 0.988 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

Methanol (67-56-1)

Mobility in soil	2.75 Source: HSDB
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.

Isopropanol (67-63-0)

Surface tension	No data available (test not performed)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.185 – 0.541 (log Koc, SRC PCKOCWIN v2.0, 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.
Additional information : Flammable vapors may accumulate in the container.

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SECTION 14: Transport information

DOT	IMDG	IATA
14.1. UN number		
1993	1993	1993
14.2. Proper Shipping Name		
Flammable liquids, n.o.s. (Xylene)	FLAMMABLE LIQUID, N.O.S. (Xylene)	Flammable liquid, n.o.s. (Xylene)
14.3. Transport hazard class(es)		
3	3	3
		
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
No supplementary information available		

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN1993

DOT Special Provisions (49 CFR 172.102) : 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.
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F).
TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

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 : B - (i) 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; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

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IMDG

Special provision (IMDG)	: 274
Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP1, TP28, TP8
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)	: B

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)	: A3
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, except for:

n-Hexane	CAS-No. 110-54-3	9 – 30%
Acetone	CAS-No. 67-64-1	0.3 – 3%
Heptane	CAS-No. 64742-49-0	0.3 – 6%
Isopropanol	CAS-No. 67-63-0	0.3 – 6%

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	6 – 30%
Methanol	CAS-No. 67-56-1	0.3 – 6%
Xylene	CAS-No. 1330-20-7	15 – 54%

Toluene (108-88-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	1000 lb
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Methanol (67-56-1)

Listed on EPA Hazardous Air Pollutant (HAPS)

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Methanol (67-56-1)

CERCLA RQ

5000 lb

Xylene (1330-20-7)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ

100 lb

15.2. International regulations

CANADA

Toluene (108-88-3)

Listed on the Canadian DSL (Domestic Substances List)

Methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

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

Listed on the Canadian DSL (Domestic Substances List)

Xylene (1330-20-7)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Toluene (108-88-3)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Methanol (67-56-1)

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)

Xylene (1330-20-7)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations



WARNING:

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

SECTION 16: Other information

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Full text of H-phrases	
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H227	Combustible liquid
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H311	Toxic in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H350	May cause cancer
H370	Causes damage to organs
H373	May cause damage to organs through prolonged or repeated exposure
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