

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : PDO-1000

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

Smart Chemical Solutions, LLC  
3505 Olsen Blvd  
Suite 201  
Amarillo, TX 79109  
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 1	H224	Extremely flammable liquid and vapor
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 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 1	H400	Very toxic to aquatic life

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  
H315 - Causes skin irritation  
H336 - May cause drowsiness or dizziness  
H340 - May cause genetic defects  
H350 - May cause cancer  
H373 - May cause damage to organs through prolonged or repeated exposure  
H400 - Very toxic to aquatic life

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

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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.  
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.  
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)

50% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)  
100% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)  
100% 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

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
Toluene	CAS-No.: 108-88-3	30 – 60	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401
Distillates (petroleum), light distillate hydrotreating process, low-boiling	CAS-No.: 68410-97-9	30 – 60	Flam. Liq. 2, H225 Muta. 1B, H340 Carc. 1B, H350 Asp. Tox. 1, H304 Aquatic Acute 1, H400

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

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### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

No additional information available

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

No additional information available

#### 4.3. Immediate medical attention and special treatment, if necessary

No additional information available

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

No additional information available

#### 5.2. Specific hazards arising from the chemical

No additional information available

#### 5.3. Special protective equipment and precautions for fire-fighters

No additional information available

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

No additional information available

##### 6.1.2. For emergency responders

No additional information available

#### 6.2. Environmental precautions

No additional information available

#### 6.3. Methods and material for containment and cleaning up

No additional information available

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

No additional information available

#### 7.2. Conditions for safe storage, including any incompatibilities

No additional information available

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 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

#### 8.2. Appropriate engineering controls

No additional information available

#### 8.3. Individual protection measures/Personal protective equipment

No additional information available

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear.
Color	: Colorless
Odor	: Mild
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: < -20
Boiling point	: No data available
Flash point	: 46 °F
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available

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Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 6.609 – 6.909
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

No additional information available

### 10.2. Chemical stability

No additional information available

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## 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

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Unknown acute toxicity (GHS US)	50% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 100% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 100% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))
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#### 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))
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<b>Toluene (108-88-3)</b>	
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

Skin corrosion/irritation : Causes skin irritation.

<b>Toluene (108-88-3)</b>	
pH	No data available in the literature
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: May cause genetic defects.
Carcinogenicity	: May cause cancer.

<b>Toluene (108-88-3)</b>	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness.

<b>Toluene (108-88-3)</b>	
STOT-single exposure	May cause drowsiness or dizziness.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.

<b>Toluene (108-88-3)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Toluene (108-88-3)</b>	
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

### **Distillates (petroleum), light distillate hydrotreating process, low-boiling (68410-97-9)**

LC50 - Fish [1]	0.854 mg/l Source: Ecological Structure Activity Relationships
EC50 96h - Algae [1]	1.323 mg/l Source: Ecological Structure Activity Relationships

### 12.2. Persistence and degradability

<b>Toluene (108-88-3)</b>	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	2.15 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	2.52 g O <sub>2</sub> /g substance
ThOD	3.13 g O <sub>2</sub> /g substance

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### Toluene (108-88-3)

BOD (% of ThOD)	0.69
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### 12.3. Bioaccumulative potential

#### 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).

### 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.

### 12.5. Other adverse effects




No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

No additional information available

## SECTION 14: Transport information

DOT	IMDG	IATA
<b>14.1. UN number</b>		
1993	1993	1993
<b>14.2. Proper Shipping Name</b>		
Flammable liquids, n.o.s. (Toluene)	FLAMMABLE LIQUID, N.O.S. (Toluene)	Flammable liquid, n.o.s. (Toluene)
<b>14.3. Transport hazard class(es)</b>		
3	3	3
		
<b>14.4. Packing group</b>		
II	II	II
<b>14.5. Environmental hazards</b>		
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes

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DOT	IMDG	IATA
No supplementary information available		

### 14.6. Special precautions for user

<b>DOT</b>	
UN-No.(DOT)	: UN1993
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.

<b>IMDG</b>	
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

<b>IATA</b>	
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:

Distillates (petroleum), light distillate hydrotreating process, low-boiling	CAS-No. 68410-97-9	30 – 60%
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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	30 – 60%
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### Toluene (108-88-3)

Listed on EPA Hazardous Air Pollutant (HAPS)

CERCLA RQ	1000 lb
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## 15.2. International regulations

### CANADA

#### Toluene (108-88-3)

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)

## 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](http://www.P65Warnings.ca.gov).

## SECTION 16: Other information

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

### Full text of H-phrases

H224	Extremely flammable liquid and vapor
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H350	May cause cancer
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life

Safety Data Sheet (SDS), USA