

nanO2-CB-00004

Version number: 1.1

SECTION 1: Identification

1.1 Product identifier

Trade name **nanO2-CB-00004**

CAS number not relevant (mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses Fuel additive

1.3 Details of the supplier of the safety data sheet

Purify Fuel, Inc. Telephone: +1 949 214 7000
 Sugar Land, TX 77496 e-mail: info@purifyfuel.com
 United States Website: www.purifyfuel.com

1.4 Emergency telephone number

Poison center		
Country	Name	Telephone
-	CHEMTREC International (outside USA)	1-703-527-3887
United States	CHEMTREC USA	(800) 424-9300

As above or nearest toxicological information centre.

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
A.10	acute toxicity (oral)	4	Acute Tox. 4	H302
A.1D	acute toxicity (dermal)	4	Acute Tox. 4	H312
A.1I	acute toxicity (inhal.)	4	Acute Tox. 4	H332
A.10	aspiration hazard	1	Asp. Tox. 1	H304
B.6	flammable liquid	4	Flam. Liq. 4	H227

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Signal word danger

Pictograms

GHS07, GHS08



Hazard statements

- H227** Combustible liquid.
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
H304 May be fatal if swallowed and enters airways.

Precautionary statements

- P210** Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261 Avoid breathing mist/vapors/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 If swallowed: Immediately call a poison center/doctor.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
P312 Call a poison center/doctor if you feel unwell.
P330 Rinse mouth.
P331 Do NOT induce vomiting.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In case of fire: Use carbon dioxide, powder extinguisher, water spray or alcohol resistant foam to extinguish.
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous ingredients for labelling

2-ethylhexyl nitrate
 Distillates (petroleum), hydrotreated light
 Naphtha (petroleum), hydrotreated heavy

2.3 Other hazards

This material is combustible, but will not ignite readily.

Hazards not otherwise classified

Risk of explosion if heated under confinement.
Repeated exposure may cause skin dryness or cracking.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Not relevant (mixture).

3.2 Mixtures**Description of the mixture**

Hazardous ingredients					
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
2-ethylhexyl nitrate	CAS No 27247-96-7	50 – < 75	Acute Tox. 4 / H302 Acute Tox. 4 / H312 Acute Tox. 4 / H332 Flam. Liq. 4 / H227 EUH044 EUH066		-
distillates (petroleum), hydrotreated light	CAS No 64742-47-8	5 – < 10	Asp. Tox. 1 / H304		-
Naphtha (petroleum), hydrotreated heavy	CAS No 64742-48-9	5 – < 10	Acute Tox. 3 / H331 Asp. Tox. 1 / H304 Flam. Liq. 4 / H227 EUH066 HNOC002	 	P(b)

Notes

P(b): The classification as a carcinogen or mutagen is not required. The substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7). When the substance is not classified as a carcinogen at least the precautionary statements (P102-)P260-P262- P301 + P310-P331 shall apply

for full text of H-phrases: see SECTION 16

The specific exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Take off immediately all contaminated clothing.

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.

Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.

Get medical advice/attention.

Wash contaminated clothing before reuse.

Following eye contact

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Following ingestion

Do NOT induce vomiting.

Get immediate medical advice/attention.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Death following aspiration.

Repeated exposure may cause skin dryness or cracking.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

water spray, alcohol resistant foam, fire extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture.

Solvent vapors are heavier than air and may spread along floors.

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Danger of bursting container.

Hazardous combustion products

nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

Keep containers cool with water spray.

In case of fire and/or explosion do not breathe fumes.

Coordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

chemical protection suit, self-contained breathing apparatus (SCBA)

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Eliminate all ignition sources if safe to do so.

Do not breathe mist/vapors/spray.

Do not get in eyes, on skin, or on clothing.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to clean up a spill

Collect spillage.

Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Vapors are heavier than air, spread along floors and form explosive mixtures with air.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Remove contaminated clothing and protective equipment before entering eating areas.

Do not breathe mist/vapors/spray.

Do not get in eyes, on skin, or on clothing.

Wash thoroughly after handling.

Preventive skin protection (barrier creams/ointments) is recommended.

7.2 Conditions for safe storage, including any incompatibilities

Explosive atmospheres

Keep container tightly closed and in a well-ventilated place.

Use local and general ventilation.

Keep cool.

Protect from sunlight.

Flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 Take precautionary measures against static discharge.
 Ground/bond container and receiving equipment.
 Protect from sunlight.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat, direct light irradiation, sunlight

Consideration of other advice

Keep away from food, drink and animal feedingstuffs.
 Store in a dry place. Store in a closed container.
 Store in a well-ventilated place. Keep cool.

Ventilation requirements

Keep any substance that emits harmful vapors or gases in a place that allows these to be permanently extracted.
 Provision of sufficient ventilation.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to DOT) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
US	petroleum distillates (naphtha) (rubber solvent)	64742-48-9	PEL	500	2,000	-	-	-	29 CFR 1910.1000
US	mineral oil	8012-95-1	PEL (CA)	-	5	-	-	dm, methodNoV	Cal/OSHA PEL
US	mineral oil	8012-95-1	REL	-	5 (10 h)	-	10	mist	NIOSH REL
US	mineral oil	8012-95-1	PEL	-	5	-	-	mist	29 CFR 1910.1000

Notation

dm as dusts and mists

Notation

method- NoV	As sampled by method that does not collect vapor
mist	as mists
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)**Eye/face protection**

Wear eye/face protection.

Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
CR: chloroprene (chlorobutadiene) rubber	no information available	no information available
NBR: acrylonitrile-butadiene rubber	no information available	no information available

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Preventive skin protection (barrier creams/ointments) is recommended.

Body protection

Protective clothing against liquid chemicals.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Color	pale yellow - brown
Odor	Petroleum-like

Other safety parameters

pH (value)	not determined
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	not determined
Flash point	76 °C
Evaporation rate	not determined
Flammability (solid, gas)	not relevant (fluid)

Explosive limits

Vapor pressure	not determined
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Density	not determined
Vapor density	0.84 – 0.96 (water = 1)
Relative density	this information is not available

Solubility(ies)

Water solubility	12.5 mg/l at 20 °C
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Partition coefficient

n-octanol/water (log KOW)	not determined
Auto-ignition temperature	215 °C at 1,013 hPa

Decomposition temperature	not relevant
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Viscosity

Kinematic viscosity	not determined
Dynamic viscosity	not determined

Explosive properties	none
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Oxidizing properties	none
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Information for relevant hazard classes according to GHS

there is no additional information

9.2 Other information

Temperature class (USA, acc. to NEC 500)

T3

(maximum permissible surface temperature on the equipment: 200°C)

SECTION 10: Stability and reactivity**10.1 Reactivity**

This material is not reactive under normal ambient conditions.

If heated:

danger of explosion, risk of ignition

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

Risk of explosion if heated under confinement.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Take precautionary measures against static discharge.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

10.5 Incompatible materials

oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Classification procedure**

If not otherwise specified the classification is based on:

Ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**Acute toxicity**

Test data are not available for the complete mixture.

Harmful if swallowed.

Harmful in contact with skin.

Harmful if inhaled.

Acute toxicity estimate (ATE)

Oral	871.1 mg/kg
Dermal	1,916 mg/kg
Inhalation: vapor	19.16 mg/l/4h

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	ATE
2-ethylhexyl nitrate	27247-96-7	oral	500 mg/kg
2-ethylhexyl nitrate	27247-96-7	dermal	1,100 mg/kg
2-ethylhexyl nitrate	27247-96-7	inhalation: vapor	11 mg/l/4h

Name of substance	CAS No	Exposure route	Endpoint	Value	Species	Method
2-ethylhexyl nitrate	27247-96-7	oral	LD50	>9,600 mg/kg	rat	-
2-ethylhexyl nitrate	27247-96-7	dermal	LDL0	>4,800 mg/kg	rabbit	-
distillates (petroleum), hydrotreated light	64742-47-8	oral	LD0	>5,000 mg/kg	rat	OECD Guideline 420
distillates (petroleum), hydrotreated light	64742-47-8	dermal	LD0	>2,000 mg/kg	rabbit	OECD Guideline 402
distillates (petroleum), hydrotreated light	64742-47-8	inhalation: vapor	LC50	>5.28 mg/l/4h	rat	OECD Guideline 403
Naphtha (petroleum), hydro-treated heavy	64742-48-9	oral	LD50	>5,000 mg/kg	rat	OECD Guideline 401
Naphtha (petroleum), hydro-treated heavy	64742-48-9	dermal	LD50	>2,000 mg/kg	rabbit	OECD Guideline 402
Naphtha (petroleum), hydro-treated heavy	64742-48-9	inhalation: vapor	LC50	>5,610 mg/m ³ /4h	rat	OECD Guideline 403

Skin corrosion/irritation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Serious eye damage/eye irritation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory or skin sensitization**Skin sensitization**

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory sensitization

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Carcinogenicity**IARC Monographs**

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans			
Name of substance	CAS No	Classification	Number
xylene	1330-20-7	3	-

Legend

3 Not classifiable as to carcinogenicity in humans

National Toxicology Program (United States)

None of the ingredients are listed.

OSHA Carcinogens

None of the ingredients are listed.

Reproductive toxicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

May be fatal if swallowed and enters airways.

Other information

Repeated exposure may cause skin dryness or cracking.

11.2 Other information

There is no additional information.

SECTION 12: Ecological information**12.1 Toxicity****Aquatic toxicity (acute)**

Test data are not available for the complete mixture.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method
2-ethylhexyl nitrate	27247-96-7	LC50	96 h	2 mg/l	zebra fish (Danio rerio)	OECD Guideline 203
2-ethylhexyl nitrate	27247-96-7	EC50	48 h	0.83 mg/l	daphnia magna	OECD Guideline 202
2-ethylhexyl nitrate	27247-96-7	ErC50	72 h	3.22 mg/l	algae (raphidocelis subcapitata)	OECD Guideline 201
2-ethylhexyl nitrate	27247-96-7	ErC50	72 h	>2.53 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201
distillates (petroleum), hydro-treated light	64742-47-8	LL50	96 h	2 – 5 mg/l	rainbow trout (Oncorhynchus mykiss)	OECD Guideline 203
distillates (petroleum), hydro-treated light	64742-47-8	EL50	72 h	1 – 3 mg/l	algae (pseudokirchneriella subcapitata)	OECD Guideline 201
distillates (petroleum), hydro-treated light	64742-47-8	EL50	48 h	1.4 mg/l	daphnia magna	OECD Guideline 202

Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method
2-ethylhexyl nitrate	27247-96-7	NOEC	72 h	0.84 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201

Name of substance	CAS No	Endpoint	Exposure time	Value	Species	Method
2-ethylhexyl nitrate	27247-96-7	LOEC	72 h	2.53 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201
2-ethylhexyl nitrate	27247-96-7	growth rate (ErCx) 10%	72 h	2.22 mg/l	algae (Desmodesmus subspicatus)	OECD Guideline 201
2-ethylhexyl nitrate	27247-96-7	growth rate (ErCx) 10%	72 h	1.54 mg/l	algae (raphidocelis subcapitata)	OECD Guideline 201
distillates (petroleum), hydro-treated light	64742-47-8	EL50	21 d	0.81 mg/l	daphnia magna	OECD Guideline 211
distillates (petroleum), hydro-treated light	64742-47-8	LOEL	21 d	1.2 mg/l	daphnia magna	OECD Guideline 211
Naphtha (petroleum), hydro-treated heavy	64742-48-9	EL50	21 d	10 mg/l	daphnia magna	OECD Guideline 211

12.2 Persistence and degradability

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method
2-ethylhexyl nitrate	27247-96-7	carbon dioxide generation	0 %	28 d	OECD Guideline 310

Biodegradation

No data available.

Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW
2-ethylhexyl nitrate	27247-96-7	-	5.24 (pH value: 7.1, 40 °C)

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects

This information is not available.

Remarks

None.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packages

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information**14.1 UN number**

DOT NA1993

IMDG-Code UN3082

ICAO-TI UN3082

14.2 UN proper shipping name

DOT Combustible liquid, n.o.s.

IMDG-Code ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

ICAO-TI Environmentally hazardous substance, liquid, n.o.s.

Technical name (hazardous ingredients) 2-ethylhexyl nitrate

14.3 Transport hazard class(es)

DOT 3

IMDG-Code 9

ICAO-TI 9

14.4 Packing group

DOT III

IMDG-Code III

	ICAO-TI	III
14.5	Environmental hazards	hazardous to the aquatic environment
	Environmentally hazardous substance (aquatic environment)	2-ethylhexyl nitrate
14.6	Special precautions for user	-
14.7	Transport in bulk according to IMO instruments	-
14.8	<u>Information for each of the UN Model Regulations</u>	
	Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information	
	Particulars in the shipper's declaration	NA1993, Combustible liquid, n.o.s., (contains: 2-ethylhexyl nitrate) , 3, III, environmetally hazard-ous
	Danger label(s)	fish and tree
	Environmental hazards	yes (hazardous to the aquatic environment)
	Special provisions (SP)	148, IB3, T1, TP1
	ERG No	128
	Remarks	
	49 CFR § 171.4 (c) Exceptions:	
	(1) Except when all or part of the transportation is by vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicle, rail car or aircraft.	
	(2) Single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other requirements of this subchapter provided the packagings meet the general requirements in §§ 173.24 and 173.24a.	
	International Maritime Dangerous Goods Code (IMDG) Additional information	
	Marine pollutant	yes (hazardous to the aquatic environment) (2-ethylhexyl nitrate)
	Danger label(s)	9, fish and tree
		
	Special provisions (SP)	274, 335, 969
	Excepted quantities (EQ)	E1
	Limited quantities (LQ)	5 L
	EmS	F-A, S-F

Stowage category

A

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Environmental hazards

yes
(hazardous to the aquatic environment)

Danger label(s)

9, fish and tree



Special provisions (SP)

A97, A158, A197, A215

Excepted quantities (EQ)

E1

Limited quantities (LQ)

30 kg

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations specific for the product in question****National regulations (United States)****Superfund Amendment and Reauthorization Act (SARA TITLE III)****The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)**

none of the ingredients are listed

Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings			
Name of substance	CAS No	Remarks	Effective date
xylene	1330-20-7	-	1987-01-01

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)**

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
xylene	1330-20-7	-	1 3 4	100 (45,4)

Legend

- 1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act
- 3 "3" indicates that the source is section 112 of the Clean Air Act
- 4 "4" indicates that the source is section 3001 of the Resource Conservation and Recovery Act (RCRA)

Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

Hazardous Substance List (NJ-RTK)

Name of substance	Name acc. to inventory	CAS No	Remarks	Classifications	Listed in	Substance number	DOT number
xylene	xylene, mixture of isomers (benzene, dimethyl-)	1330-20-7	-	F3.	1 2 3 4 6 7 8 15 17 18 20 21	2014	1307

Legend

- 1 Occupational Safety and Health Administration, 29 CFR 1910-Occupational Safety and Health Standards, Subpart Z-Toxic and Hazardous Substances, July 1, 2008.
- 15 "Fire Protection Guide to Hazardous Materials," NFPA 49 (Hazardous Chemicals Data), NFPA 325 (Guide to Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids), and NFPA 704 (Standard System for the Identification of the Hazards of Materials for Emergency Response), National Fire Protection Association (NFPA), 2001.
- 17 "2008 Emergency Response Guidebook," Research and Special Programs Administration, U.S. Department of Transportation, 2008.
- 18 List of Toxic Release Inventory Chemicals, Section 313, Emergency Planning and Community Right to Know Act (EPCRA), Toxic Release Inventory (TRI) Program, U.S. Environmental Protection Agency, 40 CFR 372.65, July 1, 2008.
- 2 "2009 TLVs® and BEIs®, Threshold Limit Values and Biological Exposure Indices," American Conference of Governmental Industrial Hygienists (ACGIH), 2009.
- 20 List of Hazardous Substances and Reportable Quantities (RQ), Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), U.S. Environmental Protection Agency, 40 CFR 302, Table 302.4, July 1, 2008.
- 21 21. Hazardous Wastes from the P and U Lists, Resource Conservation and Recovery Act (RCRA), U.S. Environmental Protection Agency, 40 CFR 261.33, July 1, 2008.
- 3 Office of Hazardous Materials Safety, Research and Special Programs Administration, U.S. Department of Transportation, 49 CFR 172.101-Hazardous Materials Table, October 1, 2008.
- 4 "NIOSH Pocket Guide to Chemical Hazards," National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, No. 2005-149, September 2005.
- 6 "Environmental Hazardous Substance List," New Jersey Department of Environmental Protection, N.J.A.C. 7:1G-2, as printed in the Community Right to Know Survey Instruction Book, 2008.
- 7 IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, "All Supplements, All Volumes, Groups 1, 2A, 2B, and 3, International Agency for Research on Cancer (IARC), World Health Organization, 2008.
- 8 Integrated Risk Information System (IRIS) Database for Risk Assessment, Office of Research and Development, National Center for Environmental Assessment, U.S. Environmental Protection Agency (EPA), September 2008.
- F3 Flammable - Third Degree

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

none of the ingredients are listed

Industry or sector specific available guidance(s)**NPCA-HMIS® III**

Hazardous Materials Identification System.
American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	1	irritation or minor reversible injury possible
Flammability	2	material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	-

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	2	material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur
Health	1	material that, under emergency conditions, can cause significant irritation
Instability	0	material that is normally stable, even under fire conditions
Special hazard	-	-

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2022-08-03

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
Acute Tox.	Acute toxicity
Asp. Tox.	Aspiration hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
DOT	Department of Transportation (USA)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EL50	Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
ERG No	Emergency Response Guidebook - Number
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
IARC Mono-graphs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code

Abbr.	Descriptions of used abbreviations
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality
LOEC	Lowest Observed Effect Concentration
LOEL	Lowest Observed Effect Level
log KOW	n-Octanol/water
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NOEC	No Observed Effect Concentration
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
ppm	Parts per million
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
STEL	Short-term exposure limit
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H227	Combustible liquid.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H331	Toxic if inhaled.
H332	Harmful if inhaled.

Responsible for the safety data sheet

Chemical Regulatory Compliance Company Telephone: +1 (630) 410-1660
Jasper, GA e-Mail: GHS@crc-us.com
USA Website: www.crc-us.com

Disclaimer

This information is based upon the present state of our knowledge.
This SDS has been compiled and is solely intended for this product.