SAFETY DATA SHEET

Sunoco SS 100



Section 1. Identification

GHS product identifier	: Sunoco SS 100
Other means of identification	: Oxygenated unleaded racing gasoline
Product code	: 267100
Product use	: Oxygenated unleaded racing gasoline California Air Resources Board (CARB): This product cannot be sold, offered for sale, supplied or offered for supply for motor vehicles in California except in competition racing. Not Legal For Use in Any Other Motor Vehicle.
Supplier's details	: Sunoco LP 3801 West Chester Pike Newtown Square, Pennsylvania 19073 Sunoco Race Fuels email: performanceproducts@sunoco.com http://www.sunocoracefuels.com
e-mail address of person responsible for this SDS	: sunocomsds@sunoco.com
Emergency telephone number (with hours of operation)	: Sunoco LP: (800) 964-8861 Chemtrec: 1-800-424-9300 (Available 24 hours/7 days per week)
	Product Safety Information: 1-888-567-3066

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	 FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms



Signal word	: Danger
Hazard statements	 Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. (cardiovascular system, central nervous system (CNS), kidneys, liver, respiratory system)
	May cause damage to organs through prolonged or repeated exposure. (cardiovascula system, central nervous system (CNS), kidneys, liver, respiratory system)

Precautionary statements

Section 2. Hazards identification

Prevention	: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Ground and bond container and receiving equipment. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Wash hands thoroughly after handling.
Response	: IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice or attention.
Storage	: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Disposal	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	: None known.
Section 2 Comp	esition/information on ingradiante

Section 3. Composition/information on ingredients

Substance/mixture	:	Mixture
Other means of identification	:	Oxygenated unleaded racing gasoline
Product code	:	267100

Ingredient name	%	CAS number
Naphtha (petroleum), light alkylate	≥60 - ≤65	64741-66-8
isopentane	≥20 - ≤25	78-78-4
toluene	≥10 - ≤20	108-88-3
ethanol	≥5 - ≤10	64-17-5
butane	≥2 - ≤5	106-97-8
xylene	≥0.001 - ≤0.01	1330-20-7
n-hexane	≥0.001 - ≤0.01	110-54-3
cyclopentane	≥0.001 - ≤0.01	287-92-3
benzene	≥0.001 - ≤0.01	71-43-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary fire	rst aid measures
Eye contact	 Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Section 4. First aid measures

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
: Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effe	ects		
Eye contact	. No known significant effects or c	itical hazards.	
Inhalation	: Can cause central nervous syste dizziness.	m (CNS) depression. May cause drow	wsiness or
Skin contact	: Causes skin irritation.		
Ingestion	: Can cause central nervous syste enters airways.	m (CNS) depression. May be fatal if s	swallowed and
Over-exposure signs/sym	<u>ptoms</u>		
Eye contact	: Adverse symptoms may include t pain or irritation watering redness	he following:	
Inhalation	: Adverse symptoms may include the nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations	he following:	
Skin contact	: Adverse symptoms may include to irritation redness reduced fetal weight increase in fetal deaths skeletal malformations	he following:	
Ingestion	: Adverse symptoms may include t nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations	he following:	
Indication of immediate me Notes to physician	dical attention and special treatmen : Treat symptomatically Contact r	<u>t needed, if necessary</u> poison treatment specialist immediatel	lv if large
	quantities have been ingested or		.,
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Section 4. First aid measures

Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media	
Suitable extinguishing media	Even by the second s
Unsuitable extinguishing media	: Do not use water jet.
Specific hazards arising from the chemical	: Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide asphyxiants
Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Remark	: Highly flammable liquid and vapor.
Remark (Explosibility)	: Vapors may form explosive mixtures with air.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	:	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods and materials for containment and cleaning up		

Small spill: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and
explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively,
or if water-insoluble, absorb with an inert dry material and place in an appropriate waste
disposal container. Dispose of via a licensed waste disposal contractor.

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Section 6. Accidental release measures

Large spill	: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible,
	absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a
	licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact
	information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name			Exposure limits			
isopentane		ACGIH TLV (United States, 1/20) TWA: 1000 ppm 8 hours.				
toluene			TWA: 200 ppm CEIL: 300 ppm AMP: 500 ppm NIOSH REL (Un TWA: 100 ppm TWA: 375 mg/r STEL: 150 ppm STEL: 560 mg/	10 minutes. I ited States, 10/2020). 10 hours. m ³ 10 hours. n 15 minutes.		
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Section 8. Exposure controls/personal protection

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cyclopentane			ACGIH TLV (1 TWA: 600 pr TWA: 1720 r NIOSH REL (1 TWA: 600 pr TWA: 1720 r	ng/m³ 8 hours. United States, 10/2020).	39).
			TWA: 500 pr TWA: 1800 r OSHA PEL 19 TWA: 50 ppr	ng/m³ 8 hours. 989 (United States, 3/198 n 8 hours.	39).
hexane			Absorbed the TWA: 50 ppr NIOSH REL (TWA: 50 ppr TWA: 180 m	n 8 hours. United States, 10/2020). n 10 hours. g/m³ 10 hours.	
			STEL: 651 m OSHA PEL (U TWA: 100 pp TWA: 435 m OSHA PEL 19 TWA: 100 pp TWA: 435 m STEL: 150 p	ng/m ³ 15 minutes. J nited States, 5/2018). om 8 hours. g/m ³ 8 hours. J89 (United States, 3/198	39).
xylene			TWA: 1900 r ACGIH TLV (I TWA: 100 pr TWA: 434 m	ng/m³ 8 hours. United States, 1/2021).	
n-butane			TWA: 800 pp TWA: 1900 r ACGIH TLV (I STEL: 1000	ng/m ³ 10 hours. United States, 3/2017). ppm 15 minutes. 989 (United States, 3/198	39).
			TWA: 1900 r OSHA PEL (U TWA: 1000 r TWA: 1900 r OSHA PEL 19 TWA: 1000 r	ng/m³ 8 hours. 989 (United States, 3/198	39).
ethanol			STEL: 1000 NIOSH REL (United States, 1/2021). ppm 15 minutes. United States, 10/2020).	
			TWA: 100 pp TWA: 375 m STEL: 150 p	989 (United States, 3/198	39).

Section 8. Exposure controls/personal protection

	TWA: 600 ppm 8 hours.
	TWA: 1720 mg/m ³ 8 hours.
benzene	ACGIH TLV (United States, 1/2021).
	Absorbed through skin.
	TWA: 0.5 ppm 8 hours.
	TWA: 1.6 mg/m ³ 8 hours.
	STEL: 2.5 ppm 15 minutes.
	STEL: 8 mg/m ³ 15 minutes.
	OSHA PEL Z2 (United States, 2/2013).
	TWA: 10 ppm 8 hours.
	CEIL: 25 ppm
	AMP: 50 ppm 10 minutes.
	NIOSH REL (United States, 10/2020).
	TWA: 0.1 ppm 10 hours.
	STEL: 1 ppm 15 minutes.
	OSHA PEL (United States, 5/2018).
	TWA: 1 ppm 8 hours.
	STEL: 5 ppm 15 minutes.
	OSHA PEL 1989 (United States, 3/1989).
	TWA: 1 ppm 8 hours.
	STEL: 5 ppm 15 minutes.

Biological exposure indices

Ingredient name	Exposure indices
Ko luene	ACGIH BEI (United States, 1/2022) BEI: 0.03 mg/l, toluene [in urine]. Sampling time: end of shift. BEI: 0.3 mg/g creatinine, o-cresol [in urine]. Sampling time: end of shift. BEI: 0.02 mg/l, toluene [in blood]. Sampling time: prior to last shift of workweek.
xylene	ACGIH BEI (United States, 1/2022) [XYLENES] BEI: 1.5 g/g creatinine, methylhippuric acids [in urine]. Sampling time: end of shift.
n-hexane	ACGIH BEI (United States, 1/2022) BEI: 0.5 mg/l, 2,5-hexanedion [in urine]. Sampling time: end of shift.
benzene	ACGIH BEI (United States, 1/2022) BEI: 25 μg/g creatinine, S-phenylmercapturic acid [in urine]. Sampling time: end of shift. BEI: 500 μg/g creatinine, t,t-muconic acid [in urine]. Sampling time: end of shift.

Appropriate engineering controls	: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

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Section 8. Exposure controls/personal protection

Hygiene measures	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
Skin protection	
Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Recommended: > 8 hours (breakthrough time): Viton®, Teflon, nitrile rubber.
Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	 Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: Ensure an MSHA/NIOSH-approved respirator or equivalent is used.

SECTION 9: Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

:	Liquid. [Clear.]
:	Clear.
:	Gasoline
:	<1 ppm
:	Not applicable.
:	Not available.
:	38 to 127°C (100.4 to 260.6°F) [ASTM D 86]
:	-40°C (-40°F)
:	Highly flammable liquid and vapor.
:	Lower: 1.5% Upper: 7.6%
:	6.7 PSI

SECTION 9: Physical and chemical properties and safety characteristics

	Vapor Pressure at 20°C		١	Vapor pressure at 50°C		
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
putane	1602.88	213.7				
isopentane	592.55	79				
cyclopentane	271.71	36.2				
n-hexane	127.51	17				
benzene	75.01	10				
ethanol	42.95	5.7				
Naphtha (petroleum), light alkylate	30	4				
toluene	23.17	3.1				
xylene	6.7	0.89				
Relative vapor density	: Not ava	ilable.				
Relative density	: 0.716 [/	ASTM D 287]			
Solubility in water	: 0 - 15%	1				
Partition coefficient: n- octanol/water	: 2 to 7					
Auto-ignition temperature	: 280°C (536°F)				
Decomposition temperature	: Not ava	ilable.				
/iscosity	: Not ava	ilable.				
Explosive properties	: Vapors	may form ex	xplosive mixtures	s with air.		
Oxidizing properties	: Not ava	ilable.				
Particle characteristics						
Median particle size	: Not app	licable.				

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Vapors may form explosive mixtures with air.
Incompatible materials	: Reactive or incompatible with the following materials: Strong oxidizing materials strong acids strong alkalis Halogens halogenated compounds peroxides chlorine
Hazardous decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide asphyxiants
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Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
₩aphtha (petroleum), light alkylate	LC50 Inhalation Vapor	Rat	>6.31 mg/l	4 hours
	LC50 Inhalation Vapor	Rat - Male, Female	5610 mg/m³	4 hours
	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-
isopentane	LC50 Inhalation Gas.	Rat - Male, Female	>20000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	280000 mg/m³	4 hours
	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
toluene	LC50 Inhalation Vapor	Rat - Male, Female	>20 mg/l	4 hours
	LD50 Dermal	Rabbit	12000 mg/kg	-
	LD50 Oral	Rat	2600 mg/kg	-
ethanol	LC50 Inhalation Gas.	Rat - Male, Female	50000 mg/m³	4 hours
	LC50 Inhalation Vapor	Rat	124700 mg/m ³	4 hours
	LD50 Oral	Rat	7060 mg/kg	-
	LD50 Oral	Rat - Male, Female	10470 mg/kg	-
butane	LC50 Inhalation Vapor	Rat	658000 mg/m³	4 hours
xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Vapor	Rat - Male	6700 ppm	4 hours
	LD50 Dermal	Rabbit - Male	12126 mg/kg	-
	LD50 Dermal	Rabbit	>1700 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
n-hexane	LC50 Inhalation Gas.	Rat	48000 ppm	4 hours
	LD50 Dermal	Rabbit	3000 mg/kg	-
	LD50 Oral	Rat	25 g/kg	-
cyclopentane	LD50 Oral	Rat	11400 mg/kg	-
benzene	LC50 Inhalation Vapor	Rabbit	44.66 mg/l	4 hours
	LC50 Inhalation Vapor	Rat - Female	43.7 mg/l	4 hours
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Conclusion/Summary Irritation/Corrosion

: May be fatal if swallowed and enters airways.

Product/ingredient name	Result	Species	Score	Exposure	Observation
toluene	Eyes - Non-irritating to the eyes.	Rabbit	-	1 minutes 0.1 ml	7 days
	Skin - Irritant	Rabbit	-	72 hours 0.5 ml	-
ethanol	Eyes - Non-irritating to the eyes.	Rabbit	-	1 hours 0.05 ml	24 hours
xylene	Eyes - Mild irritant	Rabbit	-	1 hours	7 days
	Skin - Irritant	Rabbit	-	4 hours 0.5 ml	7 days
n-hexane	Eyes - Non-irritating to the eyes.	Rabbit	-	72 hours 0.01 ml	-
	Eyes - Non-irritating to the eyes.	Rabbit	-	72 hours 0.01 ml	-
	Skin - Irritant	Rabbit	-	24 hours	-
benzene	Eyes - Irritant	Rabbit	-	1 minutes 2 drops to eye, undiluted	72 hours
	Skin - Irritant	Rabbit	-	4 hours 0.5 ml	72 hours

Conclusion/Summary

: Causes skin irritation.

Eyes Respiratory

: Not available.

: Not available.

Sensitization

Skin

Product/ingredient name	Route of exposure	Species	Result
xylene	skin	Mouse	Not sensitizing

Conclusion/Summary

Skin

: Based on available data, the classification criteria are not met.

<u>Mutagenicity</u>

Product/ingredient name	Test	Experiment	Result
	474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Positive

Conclusion/Summary : Based on available data, the classification criteria are not met.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
benzene	Positive - Oral - LOAEL	Rat - Male, Female	>25 mg/kg	103 weeks; 5 days per week
Conclusion/Summary <u>Classification</u>	: Based on available data, the o	lassification criteria	are not met.	·

Section 11. Toxicological information

	•		
Product/ingredient name	OSHA	IARC	NTP
toluene	-	3	-
ethanol	-	1	-
xylene	-	3	-
benzene	+	1	Known to be a human carcinogen.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
t oluene	Negative	Negative	Negative	Rat - Male, Female	Inhalation: 600 ppm	90 days; 6 hours per day
	-	Positive	-	Rat - Male	Inhalation: 2000 ppm	90 days; 6 hours per day
	-	Negative	Positive	Rat - Female	Inhalation: 2000 ppm	90 days; 6 hours per day
n-hexane	Negative	Negative	Negative	Rat - Male, Female	Inhalation: 9000 ppm	5 weeks; 6 hours per day

Conclusion/Summary : Suspected of damaging fertility.

Teratogenicity

Conclusion/Summary : Suspected of damaging the unborn child.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Naphtha (petroleum), light alkylate	Category 3	-	Narcotic effects
isopentane	Category 3	-	Narcotic effects
toluene	Category 3	-	Narcotic effects
n-hexane	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Ko luene	Category 2		cardiovascular system, central nervous system (CNS), kidneys, liver, respiratory system
n-hexane	Category 2	inhalation	nervous system

Aspiration hazard

Information on the likely

Section 11. Toxicological information

: Not available.

Name	Result
Sunoco SS 100	ASPIRATION HAZARD - Category 1
Naphtha (petroleum), light alkylate	ASPIRATION HAZARD - Category 1
isopentane	ASPIRATION HAZARD - Category 1
toluene	ASPIRATION HAZARD - Category 1
n-hexane	ASPIRATION HAZARD - Category 1
benzene	ASPIRATION HAZARD - Category 1

routes of exposure	
Potential acute health effects	2
Eye contact	: No known significant effects or critical hazards.
Inhalation	: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Skin contact	: Causes skin irritation.
Ingestion	: Can cause central nervous system (CNS) depression. May be fatal if swallowed an enters airways.
Symptoms related to the phy	vsical, chemical and toxicological characteristics
Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations
Skin contact	: Adverse symptoms may include the following: irritation redness reduced fetal weight increase in fetal deaths skeletal malformations
Ingestion	: Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

<u>Short term exposure</u>	
Potential immediate effects	: Not available.
Potential delayed effects Long term exposure	: Not available.
Potential immediate effects	: Not available.

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Section 11. Toxicological information

Potential delayed effects	: Not available.
Potential chronic health eff	<u>ects</u>
Not available.	
Conclusion/Summary	: Not available.
General	: May cause damage to organs through prolonged or repeated exposure.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/ I)
Naphtha (petroleum), light alkylate	N/A	2500	N/A	N/A	N/A
isopentane	N/A	N/A	N/A	280	N/A
ethanol	7060	N/A	N/A	124.7	N/A
butane	N/A	N/A	N/A	658	N/A
xylene	3500	1100	5000	N/A	N/A
n-hexane	25000	3000	48000	N/A	N/A
cyclopentane	11400	N/A	N/A	N/A	N/A
benzene	2500	N/A	N/A	43.7	N/A

Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
Naphtha (petroleum), light alkylate	Acute EC50 30000 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute LC50 8.2 mg/l	Fish - Pimephales promelas	96 hours
isopentane	EC50 2.3 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
toluene	EC50 433 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	EC50 5.6 to 9.83 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	LC50 11 to 15 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
ethanol	LC50 10000 mg/l Fresh water	Fish	96 hours
	Acute EC50 2000 μg/l Fresh water	Daphnia - Daphnia magna	48 hours
xylene	EC50 0.0084 mg/l	Micro-organism	24 hours
	LC50 0.6 mg/l Fresh water	Daphnia - Water Flea	48 hours
	LC50 2.661 to 4.093 mg/l Fresh water	Fish - Pimephales promelas	96 hours
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Section 12. Ecological information

n-hexane	EC50 1000 mg/l Fresh water	Daphnia - Daphnia Magna	24 hours
	LC50 2.1 to 2.98 mg/l Fresh water	Fish - Pimephales promelas	96 hours
cyclopentane	Acute EC50 2.3 mg/l Fresh water	Daphnia - Daphnia Magna	48 hours
benzene	EC50 29 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	EC50 8.76 to 15.6 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	LC50 28.6 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Conclusion/Summary	. Toxis to equatio life with long lecting	offecto	

Conclusion/Summary : Toxic to aquatic life with long lasting effects.

Persistence and degradability

Conclusion/Summary : There are no data available on the mixture itself.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Sunoco SS 100	2 to 7	-	high
Naphtha (petroleum), light alkylate	-	10 to 2500	high
isopentane	3	171	low
toluene	2.73	90	low
ethanol	-0.35	-	low
butane	2.89	-	low
xylene	3.12	8.1 to 25.9	low
n-hexane	4	501.187	high
cyclopentane	3	70.8	low
benzene	2.13	11	low

Mobility in soil

Soil/water partition coefficient (Koc)	: Not available.
Mobility	: Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods	: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere
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Section 13. Disposal considerations

inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Toluene	108-88-3	Listed	U220

Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	ΙΑΤΑ
UN number	UN1203	UN1203	UN1203	UN1203	UN1203	UN1203
UN proper shipping name	Gasoline	GASOLINE	GASOLINA	GASOLINE	GASOLINE	Gasoline
Transport hazard class(es)	3	3	3	3	3	3
Label	TANKE CRE					
Packing group	11	11	11	11	II	
Environmental hazards	No.	No.	No.	Yes.	Marine Pollutant: Yes	Yes. The environmentally hazardous substance mark is not required.

DOT Classification : Reportable quantity 5000 lbs / 2270 kg [837.53 gal / 3170.4 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements. Limited guantity Yes. Packaging instruction Exceptions: 150. Non-bulk: 202. Bulk: 242. Quantity limitation Passenger aircraft/rail: 5 L. Cargo aircraft: 60 L. Special provisions 144, 177, B1, B33, IB2, T4 **TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3). Explosive Limit and Limited Quantity Index 30 Passenger Carrying Vessel Index 100 Passenger Carrying Road or Rail Index 5 Special provisions 17, 88, 98, 150 **Mexico Classification** : Special provisions 243 ADR/RID : The environmentally hazardous substance mark is not required when transported in sizes of $\leq 5 \text{ L}$ or $\leq 5 \text{ kg}$. Hazard identification number 33 Limited quantity 1 L Special provisions 243, 534, 664 Tunnel code (D/E)

Section 14. Transport information

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IMDG	:	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <u>Emergency schedules</u> F-E, S-E <u>Special provisions</u> 243
ΙΑΤΑ	:	The environmentally hazardous substance mark may appear if required by other transportation regulations. Quantity limitation Passenger and Cargo Aircraft: 5 L. Packaging instructions: 353. Cargo Aircraft Only: 60 L. Packaging instructions: 364. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y341. Special provisions A100
Special precautions for user	:	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Transport in bulk according to IMO instruments	:	Not applicable.

Section 15. Regulatory information

U.S. Federal regulations	: TSCA 8(a) PAIR: cyclopentane
	TSCA 8(a) CDR Exempt/Partial exemption: Not determined
	Clean Water Act (CWA) 307: toluene; benzene
	Clean Water Act (CWA) 311: toluene; xylene; benzene
	Clean Air Act (CAA) 112 regulated flammable substances: isopentane; butane
Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)	: Listed
Clean Air Act Section 602 Class I Substances	: Not listed
Clean Air Act Section 602 Class II Substances	: Not listed
DEA List I Chemicals (Precursor Chemicals)	: Not listed
DEA List II Chemicals (Essential Chemicals)	: Not listed
SARA 302/304	
Composition/information	on ingredients
No products were found.	
SARA 304 RQ	: Not applicable.
<u>SARA 311/312</u>	
Classification	 FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
Composition/information	on ingredients

Section 15. Regulatory information

Name	%	Classification
Naphtha (petroleum), light alkylate	≥60 - ≤65	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1
isopentane	≥20 - ≤25	FLAMMABLE LIQUIDS - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1
toluene	≥10 - ≤20	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
ethanol	≥5 - ≤10	FLAMMABLE LIQUIDS - Category 2
butane	≥2 - ≤5	FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Compressed gas
xylene	≥0.001 - ≤0.01	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2
n-hexane	≥0.001 - ≤0.01	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 ASPIRATION HAZARD - Category 1
cyclopentane	≥0.001 - ≤0.01	FLAMMABLE LIQUIDS - Category 2
benzene	≥0.002 - ≤0.01	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A GERM CELL MUTAGENICITY - Category 1B CARCINOGENICITY - Category 1A SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1 ASPIRATION HAZARD - Category 1

<u>SARA 313</u>

	Product name	CAS number	%
Form R - Reporting requirements	toluene	108-88-3	≥10 - ≤20
Supplier notification	toluene	108-88-3	≥10 - ≤20

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts	: The following components are listed: ISOPENTANE; TOLUENE; ETHYL ALCOHOL;
	BUTANE

Section 15. Regulatory information

New York	: The following components are listed: Toluene
New Jersey	 The following components are listed: ISOPENTANE; TOLUENE; ETHYL ALCOHOL; BUTANE
Pennsylvania	: ₱ following components are listed: BUTANE, 2-METHYL-; BENZENE, METHYL-; ETHANOL; BUTANE

California Prop. 65

WARNING: This product can expose you to chemicals including Benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Toluene and n-hexane, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Voluene	-	Yes.
n-hexane	-	Yes.
Benzene	Yes.	Yes.

VOC

Calculation method	Product as-supplied	Product ready-for-use
Without volume exclusion	716 g/l 100 % (w/w)	Not applicable
With volume exclusion [water excluded]	716 g/l	Not applicable
With volume exclusion [water not excluded]	716 g/l	Not applicable

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: All components are listed or exempted.
Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Turkey	: All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



Procedure used to derive the classification

	Classification	Justification
		On basis of test data
FLAMMABLE LIQUIDS - Cat SKIN IRRITATION - Categor		Calculation method
TOXIC TO REPRODUCTIO	V - Category 2	Calculation method
	TOXICITY (SINGLE EXPOSURE) (Narcotic effects) -	Calculation method
Category 3	TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Ca		Expert judgment
<u>History</u>		
Date of printing	: 12/08/2022	
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Version	: 3	
Key to abbreviations	: ADR = The European Agreement concerning the I	nternational Carriage of Dangerous
References	Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor DOT = Department of Transportation GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Internediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail SGG = Segregation Group TDG = Transportation of Dangerous Goods UN = United Nations \overrightarrow{PI} (1977) Mutagenicity evaluation of unleaded gasoline. Study conducted by Litton	
	Bionetics. API Med. Res. Publ. 28-30173. Washing Institute. API (1983) Carcinogenic potential of key petroleun Eppley Institute for Research in Cancer, University Med. Res. Publ. 30-31646. Washington DC: Amer	n products. Study conducted by of Nebraska Medical School. API
	API (1995) Primary skin irritation study in rabbits o gasolines. Study conducted by Hill Top Biolabs Ind Washington DC: American Petroleum Institute.	f API 91-01 and PS-6. Unleaded test
	API (2005) Baseline gasoline vapor condensate: a toxicity study in rats with neurotoxicity assessment immunotoxicity assessments. Study conducted by 00-6125. Washington DC: American Petroleum Inst	s and 4-week in vivo genotoxicity and Huntingdon Life Sciences. Study No.
	ARCO (1986-A) Primary eye irritation study in rabb unleaded Watson premium gasoline. UBTL Study	
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Section 16. Other information

ARCO (1986-B) Dermal sensitization study in guinea pigs administered test article F-64-01 unleaded premium gasoline. UBTL Study No. 60613. Los Angeles CA: ARCO.

ARCO (1986-C) Twenty-eight (28) day dermal toxicity study in rats on test article F-64-01 unleaded Watson premium gasoline. UBTL Study No. 60761. Los Angeles CA: ARCO.

Davis, A. et al (1960) The effects on human volunteers of exposure to air containing gasoline vapor. Arch Environ Health 1, 548-554.

Drinker, P. et al (1943) The threshold toxicity of gasoline vapor. J Ind Hyg Toxicol 25, 6, 225-232.

Halder, C.A. et al (1985) Hydrocarbon nephropathy in male rats: identification of the nephrotoxic components of unleaded gasoline. Toxicol Ind Health 1, 3, 67-87.

McKee, R.H. et al (2000) Assessment in rats of the reproductive toxicity of gasoline from a gasoline vapor recovery unit. Reprod Toxicol 14, 4, 337-353.

Roberts, L. et al (2001) Developmental toxicity evaluation of unleaded gasoline vapor in the rat. Reprod Toxicol 15, 5, 487-494.

Short, B.G. et al (1989) Promoting effects of unleaded gasoline and 2,2,4-trimethylpentane on the development of atypical cell foci and renal tubular cell tumors in rats exposed to N-ethyl-N-hydroxy-ethylnitrosamine. Cancer Research 49, 22, 6369-6378.

✓ Indicates information that has changed from previously issued version.

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.