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Transmix

SECTION 1: IDENTIFICATION

Product identifier

Telephone

Fax

Product name Transmix

Other means of identification None

Relevant identified uses of the substance or mixture

and uses advised against

Identified Use(s) Refinery feedstock.

Uses advised against

Anything other than the above.

Details of the supplier of the safety data sheet

Supplier Vitol Inc.

2925 Richmond Ave, 11th Floor

Houston, TX 77098 (713) 230-1000 713-230-1185 SDSHOU@vitol.com

E-mail (competent person)

Emergency telephone number
Emergency Phone No. Chemtrec: US/Canada: 1-800-424-9300 (24h)

Mexico: 800 681 9531 (24h)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200

Physical hazards Flammable Liquid, Category 1
Health hazards Aspiration hazard, Category 1

Aspiration hazard, Category 1
Skin Corrosion/Irritation, Category 2

Eye Irritation, Category 2.

Acute toxicity, Category 3 (Inhalation)

Specific target organ toxicity — single exposure, Category 3 (Respiratory

rritation)

Specific target organ toxicity — single exposure, Category 3 (Narcotic effects)

Germ cell mutagenicity, Category 1B

Carcinogen, Category 1

Reproductive toxicity, Category 2

Specific target organ toxicity — repeated exposure, Category 2 Hazardous to the aquatic environment, Acute, Category 1

Hazardous to the aquatic environment, Chronic, Category 1

Label elements

Hazard Pictogram(s)

Environmental hazards











Signal Word(s) DANGER

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Hazard Statement(s) Extremely flammable liquid and vapour.

May be fatal if swallowed and enters airways.

Causes skin irritation.

Causes serious eye irritation.

Toxic if inhaled.

May cause respiratory irritation. May cause drowsiness or dizziness.

May cause genetic defects.

May cause cancer.

Suspected of damaging fertility or the unborn child.

May cause damage to organs through prolonged or repeated exposure.

Very toxic to aquatic life with long lasting effects

Precautionary Statement(s) Keep away from heat, hot surfaces, sparks, open flames and other ignition

sources. No smoking. Keep container tightly closed.

Store in a well-ventilated place. Keep cool. Obtain special instructions before use.

Do not breathe vapour.

Wear protective gloves/eye protection/face protection.

IF SWALLOWED: Immediately call a POISON CENTER/doctor.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Do NOT induce vomiting.

Avoid release to environment.

Dispose of contents in accordance with local, state or national legislation.

Other hazards The vapour is heavier than air; beware of pits and confined spaces. May cause

irritation to eyes and air passages. Product may release Hydrogen Sulphide: A specific assessment of inhalation risks from the presence of hydrogen sulphide in tank headspaces, confined spaces, product residue, tank waste and waste water, and unintentional releases should be made to help determine controls

appropriate to local circumstances.

Percent of the mixture consists of ingredient(s) of

unknown acute toxicity:

0% of the mixture consists of ingredients of unknown acute inhalated toxicity.
0% of the mixture consists of ingredients of unknown acute oral toxicity.

0% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures Substances in preparations / mixtures Classification: OSHA HCS (29 CFR 1910.1200)

Chemical identity of the substance	%W/W	CAS No.	EC No.	Hazard classification
Gasoline	0 - 100	86290-81-5	289-220-8	Flammable Liquid, Category 1 Aspiration hazard, Category 1 Skin Corrosion/Irritation, Category 2 Specific target organ toxicity — single exposure, Category 3 (Narcotic effects) Germ cell mutagenicity, Category 1B Carcinogen, Category 1B Reproductive toxicity, Category 2 Hazardous to the aquatic environment, Chronic, Category 2
Fuels, diesel, no. 2	0 - 100	68476-34-6	270-676-1	Flammable Liquid, Category 3 Aspiration hazard, Category 1 Skin Corrosion/Irritation, Category 2 Acute toxicity, Category 4 (Inhalation) Carcinogen, Category 2

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				Hazardous to the aquatic environment, Chronic, Category 2
				Flammable Liquid, Category 2
				Aspiration hazard, Category 1
Ethylbenzene	0 - 5	100-41-4	202-849-4	Acute toxicity, Category 4 (Inhalation)
Ethylochizone		100 41 4	202 040 4	Specific target organ toxicity — repeated exposure, Category 2
				(hearing organs)
				Flammable Liquid, Category 2
				Aspiration hazard, Category 1
				Skin Corrosion/Irritation, Category 2
				Eye Irritation, Category 2
Benzene	0 - 4.9	71-43-2	200-753-7	Germ cell mutagenicity, Category 1B
				Carcinogen, Category 1A
				Specific target organ toxicity — repeated exposure, Category 2
				Hazardous to the aquatic environment, Chronic, Category 3
				Flammable solid, Category 2
				Acute toxicity, Category 4 (Oral)
Naphthalene	1 - 3	91-20-3	202-049-5	Carcinogen, Category 2
Naphthalene	1 - 3	91-20-3	202-049-3	Hazardous to the aquatic environment, Acute, Category 1
				Hazardous to the aquatic environment, Acute, Category 1
		111-84-2		
	1 - 3			Flammable Liquid, Category 2 Aspiration hazard, Category 1
				Skin Corrosion/Irritation, Category 2
Nonane			203-913-4	
Nonane			203-913-4	Specific target organ toxicity — single exposure, Category 3 (Narcotic effects)
				,
				Hazardous to the aquatic environment, Acute, Category 1
				Hazardous to the aquatic environment, Chronic, Category 1
		110-54-3	203-777-6	Flammable Liquid, Category 2
				Aspiration hazard, Category 1
	0 - 3			Skin Corrosion/Irritation, Category 2
n-hexane				Specific target organ toxicity — single exposure, Category 3
				(Narcotic effects)
				Reproductive toxicity, Category 2
				Specific target organ toxicity — repeated exposure, Category 2
				Hazardous to the aquatic environment, Chronic, Category 2
				Flammable Liquid, Category 2
	0 - 3			Aspiration hazard, Category 1
				Skin Corrosion/Irritation, Category 2
Cyclohexane		110-82-7	203-806-2	Specific target organ toxicity — single exposure, Category 3
				(Narcotic effects)
				Specific target organ toxicity — repeated exposure, Category 2
				Hazardous to the aquatic environment, Acute, Category 1
				Hazardous to the aquatic environment, Chronic, Category 1

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Self-protection of the first aider

Inhalation

Avoid all contact. Do not breathe vapour. Eliminate sources of ignition. If it is suspected that fumes are still present, the responder should wear an appropriate mask or self-contained breathing apparatus. Drench contaminated clothing with water before removing to avoid risk of sparks from static electricity. Do not use mouth-to-mouth resuscitation. No action should be taken involving personal risk. Wear appropriate personal protective equipment, avoid direct contact. Avoid exposure during pregnancy. Do not ingest. If swallowed then seek immediate medical assistance.

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight

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Skin contact

Eye contact

Ingestion

Most important symptoms and effects, both acute and delayed

Indication of any immediate medical attention and special treatment needed

Notes to a physician:

clothing such as a collar, tie, belt or waistband. Apply artificial respiration only if patient is not breathing but do not use mouth to mouth resuscitation. Get medical advice/attention if you feel unwell.

IF ON SKIN (or hair): Remove contaminated clothing immediately and wash affected skin with plenty of water or soap and water. If irritation persists, get medical attention.

IF IN EYES: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention. If irritation persists, get medical attention.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. If unconscious, place in recovery position and get medical attention immediately. Wash out mouth with water and give small quantities of water to drink. Do not give anything by mouth to an unconscious person. Get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Do not wait for symptoms to appear.

May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. Toxic if inhaled. May cause respiratory irritation. May cause drowsiness or dizziness. May cause genetic defects. May cause cancer. Suspected of damaging fertility or the unborn child.

Treat symptomatically.

IF IN EYES: Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required.

IF INHALED: If unconscious, place in recovery position and get medical attention immediately. Administer oxygen if available and artificial respiration if necessary. IF SWALLOWED: Do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration into the lungs.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Unsuitable extinguishing media

Special hazards arising from the substance or mixture

Advice for firefighters

Extinguish with sand or dry chemical. Foam, Carbon dioxide, Water fog or dry powder

Do not use water jet. Direct water jet may spread the fire.

Extremely flammable liquid and vapour. Will float and can be reignited on surface water. A mixture of solid and liquid particulates and gases including unidentified organic and inorganic compounds. May form explosive mixture with air. Prevent liquid entering sewers, basements and any watercourses. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback. If sulphur compounds are present in appreciable amounts, combustion products may include also H2S and SOx (sulfur oxides) or sulfuric acid.

Fight fire with normal precautions from a reasonable distance. Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Keep containers cool by spraying with water if exposed to fire. Avoid release to the environment. Dike fire control water for later disposal.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures Caution - spillages may be slippery. Ensure operatives are trained to minimise exposures. Ensure suitable personal protection during removal of spillages. Eliminate sources of ignition. Shut off leaks if without risk. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid all contact. Do not breathe vapour. Ensure adequate ventilation. Do not ingest. If swallowed then seek immediate medical assistance. Do not use sparking tools. Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Avoid exposure during pregnancy.

Methods and material for containment and cleaning up Provided it is safe to do so, isolate the source of the leak. Use non-sparking equipment when picking up flammable spill. The vapour is heavier than air; beware of pits and confined spaces. Ensure that the equipment is adequately grounded. Allow small spillages to evaporate provided there is adequate

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ventilation. Wear flame-resistant antistatic protective clothing. Wear chemical protection suit and breathing apparatus.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Conditions for safe storage, including any incompatibilities

Storage temperature Incompatible materials

Obtain special instructions before use. Keep away from sources of ignition - No smoking. Use only outdoors or in a well-ventilated area. Prevent vapour build up by providing adequate ventilation during and after use. May form explosive mixtures with air. Take action to prevent static discharges. Use non-sparking tools. All parts of the plant and equipment should be electrically bonded together and connected to earth. Electrical continuity should be checked at regular intervals. Antistatic clothing and footwear should be used. The vapour is heavier than air; beware of pits and confined spaces. Avoid all contact with substance. Do not ingest. If swallowed then seek immediate medical assistance. Do not breathe vapour. See Section: 8. Keep good industrial hygiene. Wash hands thoroughly after handling. Contaminated clothing should be thoroughly cleaned.

Light hydrocarbon vapours can build up in the headspace of containers. These can cause flammability / explosion hazards. Bund storage facilities to prevent soil and water pollution in the event of spillage. Keep only in original packaging. Keep containers properly sealed when not in use. Protect from sunlight. Containers of this material may be hazardous when empty since they retain product residue. Empty container may contain product residue which may result in flammable or explosive vapours inside the container.

Stable at ambient temperatures.

Keep away from oxidising agents. Strong Acids and Alkalis.

SECTION 8: Exposure controls/personal protection

Occupational exposure limits

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SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Note
		100	375	150	560	NIOSH
Toluene	108-88-3	-	-	300	-	OSHA
	Ī	20	-	-	-	ACGIH, A4
Hexane (Other	00.44.0	100	350	510^	1800	NIOSH
Isomers)	96-14-0	500	-	1000	-	ACGIH
·		100	435	150*	655	NIOSH
Xylene	1330-20-7	100	435	-	-	OSHA
·	ŀ	100	-	150	-	ACGIH, A4
		75	350	385*	1800*	NIOSH
Octane	111-65-9	500	2350	-	-	OSHA
	ŀ	300	-	-	-	ACGIH
		1000	1900	-	-	NIOSH
Ethanol	64-17-5	1000	1900	-	-	OSHA
	ŀ	-	-	1000	-	ACGIH
		85	350	440*	1800*	NIOSH
n-Heptane	142-82-5	5000	2000	-	-	OSHA
·	Ī	400		500		ACGIH
Pentane	109-66-0	1000	-	-	-	ACGIH
		50	245	-	-	NIOSH
Cumene	98-82-8	50	245	-	-	OSHA
	Ī	50		-	-	ACGIH
		100	435	125*	545*	NIOSH
Ethylbenzene	100-41-4	100	435	-	-	OSHA
	ļ ļ	20	-	-	-	ACGIH
		0.1	0.32	1^	3.2	NIOSH
Benzene	71-43-2	1	-	5	-	OSHA
	ŀ	0.5	-	2.5	-	ACGIH, A1
		50	180	-	-	NIOSH
N-hexane	110-54-3	50	1800	-	-	OSHA
	ŀ	50	-	-	-	ACGIH, Sk
		300	1050	-	-	NIOSH
Cyclohexane	110-82-7	300	1050	-	-	OSHA
-		100	-	-	-	ACGIH
		10	50	15^	75^	NIOSH
Naphthalene	91-20-3	10	50			OSHA
•		10	-	-	-	ACGIH, SK, A3
Managa	441.01.0	200	1050	-	-	NIOSH
Nonane	111-84-2	200	-	-	-	ACGIH

Note: OSHA PELs 1910.1000 TABLE Z-1/2/3 / NIOSH RELs / ACGIH TLVs

The other components listed in Section 3 do not have occupational exposure limits.

Biological exposure indicies

SUBSTANCE	CAS No.	Determinant	Biological Exposure Indices	Sampling Time	Note

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[^]Ceiling limit value (15 min)

^{*}NIOSH 15 minute average values

⁽¹⁾ Ceiling limit value (10 min)

Sk - Can be absorbed through skin.

A1: Confirmed Human Carcinogen: The agent is carcinogenic to humans based on the weight of evidence from epidemiological studies

A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histological type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiological studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

A4: Not Classifiable as a Human Carcinogen: Agents which cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of the lack of data. In vitro or animal studies do not provide indications of carcinogenicity which are sufficient to classify the agent into one of the other categories.

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		Toluene in blood	0.02 mg/l	Prior to last shift of workweek	-
Toluene	108-88-3	Toluene in urine	0.03 mg/l	End of shift	-
		o-Cresol in urine with hydrolosis	0.3 mg/g creatinine	End of shift	В
Xylene, o-,m-,p- or mixed isomers	1330-20-7	Methylhippuric acids in urine.	1.5 g/g Creatinine	End of shift	-
Ethylbenzene	100-41-4	Sum of mandelic acid and phenylglyoxylic acid in urine	0.15 g/g Creatinine	End of shift	Ns
Naphthalene	91-20-3	1-Naphthol* + 2-Naphthol*	=	End of shift	Nq, Ns

Source: ACGIH: American Conference of Governmental Industrial Hygienists - Biological Exposure Index (BEI) 2019

Note:

B: Background Nq: Nonquantitative

Ns: The determinant is nonspecific, since it is also observed after exposure to other chemicals.

Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction if dusts, fumes or vapours are likely to be evolved. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Guarantee that the eye flushing systems and safety showers are located close to the working place.

Individual protection measures, such as personal protective equipment

Fuels are typically used, transferred and transported in closed systems. If exposure is likely (i.e. during sampling) the following advice may be appropriate. Keep good industrial hygiene. Always wash hands before smoking, eating and drinking. Do not eat, drink or smoke at the work place. Avoid all contact. Do not breathe vapour. Avoid exposure during pregnancy.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Eye/ face protection



Use eye protection according to EN 166, designed to protect against liquid splashes.

Skin protection



Hand protection: Wear impervious gloves (recommended: EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Protective index 6, corresponding > 480 minutes of permeation time according to EN 374. Efficiency of at least 80%).

Body protection: Wear anti-static clothing and shoes.

Small scale: Wear suitable coveralls to prevent exposure to the skin.

Large scale: Chemical protection suit.

When the product is heated / In case of inadequate ventilation wear respiratory protection. The use of a high efficiency filter (recommended: EN143) is recommended. Filter type A1.

3,1

Closed system(s): Not normally required.

Respiratory protection



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Odour

Odour threshold

рΗ

Melting point/freezing point

Initial boiling point and boiling range

Flash point

Light straw to red clear liquid. Strong Hydrocarbon Not available Not available Not available 80.06 - 440.06 °F (26.7 - 226.7 °C) -40.0 °F (-40.0 °C) (closed cup)

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Evaporation rate

Flammability (solid, gas)

Upper/lower flammability or explosive limits

Upper limit: 7.1 %

Lower limit: 1.3 %

Vapour pressure 60.8 - 101.3 kPa (20°C)
Vapour density 3 - 4 (Air=1)
Relative density Not available

Relative density

Solubility(ies)

Partition coefficient: n-octanol/water

Not available

Not available

Auto-ignition temperature Not available
Decomposition temperature Not available
Viscosity Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity Stable under normal conditions. Reacts with - Strong oxidising agents

Chemical stability Stable under normal conditions. Hazardous polymerisation will not occur.

Product may release Hydrogen Sulphide.

Possibility of hazardous reactions Extremely flammable liquid and vapour. May form explosive mixture with air.

Vapours are heavier than air and may travel considerable distances to a source

of ignition and flashback.

Conditions to avoid Elevated temperature. Keep away from heat, hot surfaces, sparks, open flames

and other ignition sources. No smoking. Keep away from direct sunlight.

Incompatible materials Keep away from oxidising agents. Strong Acids and Alkalis.

Hazardous decomposition products

A mixture of solid and liquid particulates and gases including unidentified organic

and inorganic compounds. Decomposes in a fire giving off toxic fumes: COx,

H2S, SOx,

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity - Ingestion Mixture: Based upon the available data, the classification criteria are not met.

Calculated acute toxicity estimate (ATE) >2,000 mg/kg.

Acute toxicity - Inhalation Mixture: Acute toxicity, Category 3 (Inhalation): Toxic if inhaled.

Acute Toxicity Estimate Mixture Calculation: LC50 < 2,0 ≤ 10,0 (Vapour)

Fuels, diesel, no. 2 Acute toxicity, Category 4 (Inhalation): Harmful if inhaled.

LC50 (inhalation,rat) mg/l/4h: 4.1 (OECD 403)

Xylene (o, m, p isomers) Acute toxicity, Category 4 (Inhalation): Harmful if inhaled.

EU Harmonised Classification

1,2,4-trimethylbenzene Acute toxicity, Category 4 (Inhalation): Harmful if inhaled.

EU Harmonised Classification

Ethylbenzene Acute toxicity, Category 4 (Inhalation): Harmful if inhaled.

EU Harmonised Classification

Acute toxicity - Skin contact Mixture: Based upon the available data, the classification criteria are not met.

Calculated acute toxicity estimate (ATE) >2,000 mg/kg.

Skin corrosion/Irritation Mixture: Skin Corrosion/Irritation, Category 2: Causes skin irritation.

Gasoline Skin Corrosion/Irritation, Category 2: Causes skin irritation.

Irritating to skin. (rabbit) (OECD 404)

Fuels, diesel, no. 2 Skin Corrosion/Irritation, Category 2: Causes skin irritation.

Irritating to skin. (rabbit) (OECD 404)

Toluene Skin Corrosion/Irritation, Category 2: Causes skin irritation.

Irritating to skin. (rabbit) (EU Method B.4)

Hexane (Other Isomers) Skin Corrosion/Irritation, Category 2: Causes skin irritation.

Irritating to skin. (Human) (Unnamed publication, 1999)

Xylene (o, m, p isomers) Skin Corrosion/Irritation, Category 2: Causes skin irritation.

EU Harmonised Classification

Read across (chevron paraxylene). Slightly irritating to skin. (rat) (EU Method

B.4) (Chatterjee, 2005)

Octane (All isomers) Skin Corrosion/Irritation, Category 2: Causes skin irritation.

Irritating to skin. (rabbit) (OECD 404)

1,2,4-trimethylbenzene Skin Corrosion/Irritation, Category 2: Causes skin irritation.

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Serious eye damage/irritation

Respiratory or skin sensitisation

Germ cell mutagenicity

Carcinogenicity

Reproductive toxicity



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Irritating to skin. (rabbit) (EU Method B.4)

n-Heptane Skin Corrosion/Irritation, Category 2: Causes skin irritation.

EU Harmonised Classification

Irritating to skin. (rabbit) (OECD 404)

Benzene Skin Corrosion/Irritation, Category 2: Causes skin irritation.

Irritating to skin. (rabbit) (OECD 404)

N-hexane Skin Corrosion/Irritation, Category 2: Causes skin irritation.

EU Harmonised Classification Irritating to skin. (rabbit) (OECD 404)

Cyclohexane Skin Corrosion/Irritation, Category 2: Causes skin irritation.

EU Harmonised Classification

Irritating to skin. (rabbit) (EU Method B.4)

Nonane Skin Corrosion/Irritation, Category 2: Causes skin irritation.

EU ECHA registration dossier

Mixture: Eye Irritation, Category 2: Causes serious eye irritation.

Xylene (o, m, p isomers) Irritation, Category 2: Causes serious eye irritation.

Eye Damage/Irritation - Category 2

Ethanol Irritation, Category 2A: Causes serious eye irritation.

EU Harmonised Classification. Irritating to eyes. (rabbit) (OECD 405)

1,2,4-trimethylbenzene Irritation, Category 2: Causes serious eye irritation.

EU Harmonised Classification

Benzene Irritation, Category 2: Causes serious eye irritation.

EU Harmonised Classification.

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

Mixture: Germ cell mutagenicity, Category 1B: May cause genetic defects.

Gasoline Germ cell mutagenicity, Category 1B: May cause genetic defects.

EU Harmonised Classification.

ECHA Registration Endpoint summary: According to EU CLP Classification (EC no. 1272/2008), there is a regulatory requirement to classify gasoline and naphtha streams as hazardous for this endpoint when they contain >0.1%

benzene.

Benzene Germ cell mutagenicity, Category 1B: May cause genetic defects.

In vitro: negative (Zeiger E and Haworth S., 1985)

In vivo: positive (OECD 474)

Mixture: Carcinogen, Category 1: May cause cancer.

Gasoline Carcinogen, Category 1B: May cause cancer.

EU Harmonised Classification.

ECHA Registration Endpoint summary: According to EU CLP Classification (EC no. 1272/2008), there is a regulatory requirement to classify gasoline and naphtha streams as hazardous for this endpoint when they contain >0.1%

benzene.

Fuels, diesel, no. 2 Carcinogen, Category 2: Suspected of causing cancer.

EU Harmonised Classification.

Benzene Carcinogen, Category 1A: May cause cancer.

LOAEL: 25 mg/kg/dw/day (rat) (EPA OPP 83-5)

Naphthalene Carcinogen, Category 2: Suspected of causing cancer.

EU Harmonised Classification

LOAEC: 50 mg/m³ (rat) (Unnamed publication, 2000)

Mixture: Reproductive toxicity, Category 2: Suspected of damaging fertility or the

unborn child.

Gasoline Reproductive toxicity, Category 2: Suspected of damaging fertility or the unborn

child.

EU Harmonised Classification.

ECHA Registration Endpoint summary: According to EU CLP Classification (EC no. 1272/2008), there is a regulatory requirement to classify gasoline and naphtha streams as hazardous for this endpoint when they contain >0.1%

benzene.

Toluene Reproductive toxicity, Category 2: Suspected of damaging fertility or the unborn

child.

Reproductive toxicity: NOAEC (rat) (inhalation exposure) mg/m³: 2261. (Ono,

1996)

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STOT - single exposure

STOT - repeated exposure

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Developmental toxicity: NOAEC (rat) (inhalation exposure) mg/m ³	: 4522.	(Thiel,
1007)		

N-hexane Reproductive toxicity, Category 2: Suspected of damaging fertility.

Reproductive toxicity: No adverse effect observed (rat) (OECD 416) Developmental toxicity: Maternal toxicity – NOAEC: 900 ppm (OECD 414) Mixture: Specific target organ toxicity — single exposure, Category 3

(Respiratory Irritation): May cause respiratory irritation.

Specific target organ toxicity — single exposure, Category 3 (Narcotic effects):

May cause drowsiness or dizziness.

Gasoline Specific target organ toxicity — single exposure, Category 3 (Narcotic effects):

May cause drowsiness or dizziness.

Weight of evidence approach

Toluene Specific target organ toxicity — single exposure, Category 3 (Narcotic effects):

May cause drowsiness or dizziness.

Causes dizziness. (Human volunteers) (SCOEL, 2001)

Hexane (Other Isomers) Specific target organ toxicity — single exposure, Category 3 (Narcotic effects):

May cause drowsiness or dizziness.

EU Harmonised Classification.

Xylene (o, m, p isomers) Specific target organ toxicity - single exposure, Category 3 (Respiratory

Irritation): May cause respiratory irritation.

ECHA Registration Endpoint summary: Irritating to eyes, respiratory system and

Mixture: Specific target organ toxicity — repeated exposure, Category 2: May

cause damage to organs through prolonged or repeated exposure.

Fuels, diesel, no. 2 Specific target organ toxicity — repeated exposure, Category 2: May cause

damage to organs through prolonged or repeated exposure.

Inhalation: NOAEC > 1710 mg/m³ (Systemic effects) (rat) (OECD 413)

Toluene Specific target organ toxicity — repeated exposure, Category 2: May cause

damage to organs through prolonged or repeated exposure.

Oral: Adverse effects observed - NOAEL (rat) mg/kg bw/day 625 (EU Method

Inhalation: NOAEC (rat) mg/m3 1131 (OECD 453)

Dermal: No data

Xylene (o, m, p isomers) Specific target organ toxicity — repeated exposure, Category 2: May cause

damage to organs through prolonged or repeated exposure. Oral: Adverse effects observed - NOAEL (rat) 250 mg/kg bw/day Inhalation: Adverse effects observed - NOAEC (rat) 3515 mg/m³

Dermal: Not classified - No data

Ethylbenzene Specific target organ toxicity — repeated exposure, Category 2: May cause

damage to organs through prolonged or repeated exposure.

EU Harmonised Classification

Oral: NOAEL: 75 mg/kg bw/day (OECD 407) (rat) Inhalation: NOAEC: 500 mg/m³ (OECD 453) (rat)

Dermal: No data

Benzene Specific target organ toxicity — repeated exposure, Category 2: May cause

damage to organs through prolonged or repeated exposure.

Oral: Chronic - LOAEL: 25 mg/kg/dw/day (rat) Inhalation: Chronic - NOAEC: 11.2mg/m3

Dermal: No data

N-hexane Specific target organ toxicity — repeated exposure, Category 2: May cause

damage to organs through prolonged or repeated exposure.

Oral: NOAEL: 568 mg/kg bw/day (rat) Inhalation: LOAEC: 1760 mg/m³ Dermal: LOAEC: 1760 mg/m³ (Mouse)

Cyclohexane Specific target organ toxicity — repeated exposure, Category 2: May cause

damage to organs through prolonged or repeated exposure.

Oral: No data

Inhalation: NOAEC: 2000ppm (Unnamed publication, 2000)

Dermal: No data

Aspiration hazard Mixture: Aspiration hazard, Category 1: May be fatal if swallowed and enters

Gasoline Aspiration hazard, Category 1: May be fatal if swallowed and enters airways.

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EU Harmonised Classification.

Viscosity: 1 mm²/s @ 20 °C

Fuels, diesel, no. 2 Aspiration hazard, Category 1: May be fatal if swallowed and enters airways.

Kinematic viscosity: 2 - 9 mm²/s @ 40 °C

Toluene Aspiration hazard, Category 1: May be fatal if swallowed and enters airways.

EU Harmonised Classification.

Dynamic viscosity: 0.56 mPa s (@25°C)

Surface tension: 27.93nM (@25°C)

Hexane (Other Isomers) Aspiration hazard, Category 1: May be fatal if swallowed and enters airways.

EU Harmonised Classification.

Xylene (o, m, p isomers) Aspiration hazard, Category 1: May be fatal if swallowed and enters airways.

Hydrocarbon

Octane (All isomers) Aspiration hazard, Category 1: May be fatal if swallowed and enters airways.

EU Harmonised Classification.

Dynamic viscosity: 0.801 mm2/s (@25°C) Surface tension: 21.14 mN/m (@25°C)

Information on likely routes of exposure

Inhalation Possible - accidental exposure Ingestion Possible - accidental exposure Skin contact Possible - accidental exposure Unlikely - accidental exposure Eye contact

Early onset symptoms related to exposure May be fatal if swallowed and enters airways. Causes skin irritation. Causes

serious eye irritation. Toxic if inhaled. May cause respiratory irritation. May

cause drowsiness or dizziness.

Delayed health effects from exposure May cause genetic defects. May cause cancer. Suspected of damaging fertility

or the unborn child.

Exposure levels and health effects See Section: 8

Interactive effects None known

Other information

OSHA Designated Carcinogen Benzene: Listed Benzene: Listed NIOSH Occupational Carcinogen List Gasoline: Listed Benzene: Listed NTP Report on Carcinogens Naphthalene: Listed

Gasoline: Listed Petroleum: Listed Benzene: Listed Naphthalene: Listed

IARC Monographs Xylene: Listed

> Ethylbenzene: Listed Toluene: Listed Ethanol: Listed

SECTION 12: ECOLOGICAL INFORMATION

Toxicity Mixture: Hazardous to the aquatic environment, Acute, Category 1: Very toxic

to aquatic life with long lasting effects.

Hazardous to the aquatic environment, Chronic, Category 1: Very toxic to

aquatic life with long lasting effects.

Gasoline Hazardous to the aquatic environment, Chronic, Category 2: Toxic to aquatic life

with long lasting effects.

The aquatic toxicity was estimated using the PETROTOX computer model.

NOEL (Fish) 0.083 mg/l (Estimated)

Fuels, diesel, no. 2 Hazardous to the aquatic environment, Chronic, Category 2: Toxic to aquatic life

with long lasting effects.

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EC50: 4.321 mg/l (EPA, 2012)

Toluene Hazardous to the aquatic environment, Chronic, Category 3: Harmful to aquatic

life with long lasting effects.

Chronic Toxicity: NOEC (Fish) mg/l (40 days) 1.4 (Moles, 1981)

Hexane (Other Isomers) Hazardous to the aquatic environment, Chronic, Category 2: Toxic to aquatic life

with long lasting effects.

LC50: 3.649 mg/L (EPA 2012)

Xylene (o, m, p isomers) Hazardous to the aquatic environment, Chronic, Category 3: Harmful to aquatic

life with long lasting effects. EU Harmonised Classification

Short term: Not classified – LC50 (fish) mg/l 2.6 OECD 203

Long Term: NOEC (Fish) mg/l >1.3 (Walsh et al, 1977)

Octane (All isomers) Hazardous to the aquatic environment, Acute, Category 1: Very toxic to aquatic

life with long lasting effects. EU Harmonised Classification LL50: 2.587 mg/L (CONCAWE, 2010)

Hazardous to the aquatic environment, Chronic, Category 1: Very toxic to

aquatic life with long lasting effects. EU Harmonised Classification

NOELR: 0.579 mg/L (CONCAWE, 2010)

1,2,4-trimethylbenzene Hazardous to the aquatic environment, Chronic, Category 2: Toxic to aquatic life

with long lasting effects. EU Harmonised Classification

EC50: 2.356 mg/L (Nabholz V and Mayo-Bean K, 2009)

n-Heptane Hazardous to the aquatic environment, Acute, Category 1: Very toxic to aquatic

life with long lasting effects. EU Harmonised Classification LL50: 2.738 mg/L (CONCAWE, 2010)

Hazardous to the aquatic environment, Chronic, Category 1: Very toxic to

aquatic life with long lasting effects. EU Harmonised Classification NOELR: 1.284mg/L (CONCAWE, 2010)

Pentane Hazardous to the aquatic environment, Chronic, Category 2: Toxic to aquatic life

with long lasting effects. EU Harmonised Classification

NOELR: 6.165 mg/L (Unnamed publication, 2009)

Cumene Hazardous to the aquatic environment, Chronic, Category 2: Toxic to aquatic life

with long lasting effects.
EU Harmonised Classification
NOEC: 0.38 mg/L (EU RAR, 2001)

Benzene Hazardous to the aquatic environment, Chronic, Category 3: Harmful to aquatic

life with long lasting effects.

NOEC: 0.8 mg/L (32 days) (Fish) (ASTM 1984)

N-hexane Hazardous to the aquatic environment, Chronic, Category 2: Toxic to aquatic life

with long lasting effects. EU Harmonised Classification

Cyclohexane Hazardous to the aquatic environment, Acute, Category 1: Very toxic to aquatic

life with long lasting effects. EU Harmonised Classification LC50: 4.53 mg/L (OECD 203)

Hazardous to the aquatic environment, Chronic, Category 1: Very toxic to

aquatic life with long lasting effects. EU Harmonised Classification

EL10: 0.447 mg/L (McGrath et al.. 2015)

Naphthalene Hazardous to the aquatic environment, Acute, Category 1: Very toxic to aquatic

life with long lasting effects. EU Harmonised Classification LC50: 1.6 mg/L (OECD 203)

Hazardous to the aquatic environment, Chronic, Category 1: Very toxic to

aquatic life with long lasting effects. EU Harmonised Classification

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Bioaccumulative potential

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Transmix

LC50: 2.1 mg/L (Moles et al. 1981)

Nonane Hazardous to the aquatic environment, Acute, Category 1: Very toxic to aquatic

life with long lasting effects.

Hazardous to the aquatic environment, Chronic, Category 1: Very toxic to

aquatic life with long lasting effects.

No data

Persistence and degradability

No data for the mixture as a whole.

Gasoline Readily biodegradable. (OECD 301F)

90.35% Degradation in Water (28 days)

Fuels, diesel, no. 2 Substance is complex UVCB. Standard tests for this endpoint are intended for

single substances and are not appropriate for this complex substance

Toluene Readily biodegradable.

69% Degradation in Water (5 days) (Bridie et al. 1979)

Hexane (Other Isomers) Readily biodegradable.

~93-94% Degradation in Water (OECD 301 C)

Xylene (o, m, p isomers) Readily biodegradable.

98% Degradation in Water (28 Days) (OECD 301 F)

Ethanol Readily biodegradable.

82.7% Degradation in Water (5 Days) (Wagner, R, 1976)

Octane (All isomers) Readily biodegradable.

70% Degradation in Water (10 days) (Hains et al. 1974)

1,2,4-trimethylbenzene Readily biodegradable.

Weight of evidence approach

>60% Degradation in Water (28 Days) (OECD 301 F)

n-Heptane Readily biodegradable.

70% Degradation in Water (10 days) (Hains et al. 1974)

Pentane Readily biodegradable.

87% Degradation in Water (28 Days) (OECD 301 F)

Cumene Readily biodegradable.

70% Degradation in Water (20 Days) (Price KS et al. 1974)

Ethylbenzene Readily biodegradable.

70-80% Degradation in Water (28 Days) (Unnamed publication, 2003)

Benzene Readily biodegradable.

81% Degradation in Water (5 days) (OECD 301F)

N-hexane Readily biodegradable.

95% Degradation in Water (14 days) (OECD 301F)

Cyclohexane Readily biodegradable.

77% Degradation in Water (28 Days) (OECD 301F)

Naphthalene Readily biodegradable.

>74% Degradation in Water (28 Days) (OECD 301 C)

Nonane No data

No data for the mixture as a whole.

Gasoline The substance has low potential for bioaccumulation.

BCF: 7 ((Q)SAR)

Fuels, diesel, no. 2 Substance is complex UVCB. Standard tests for this endpoint are intended for

single substances and are not appropriate for this complex substance

Toluene The substance has low potential for bioaccumulation.

BCF: 90 (Freitag D et al. 1985)

Hexane (Other Isomers) No data

Xylene (o, m, p isomers) Not anticipated to bioaccumulate

BCF: 25.9 (Walsh et al. 1977)

Ethanol Not anticipated to bioaccumulate

BCF: <10 (Freitag, D. et al. 1985) Octane (All isomers) Not anticipated to bioaccumulate

BCF: 199 L/kg (Donkin, P. et al. 1989)

1,2,4-trimethylbenzene Not anticipated to bioaccumulate

BCF: 243 (Veith GD and Broderius SJ. 1987)

n-Heptane Will bioaccumulate.

BCF: 552 L/Kg (Unnamed publication, 2009)

Pentane Not anticipated to bioaccumulate

BCF: 171 L/kg (Veith GD and Broderius SJ. 1987)

Cumene Not anticipated to bioaccumulate

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Mobility in soil

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Transmix

BCF: 94.69 L/kg (Unnamed publication, 2010)

Ethylbenzene Not anticipated to bioaccumulate

BCF: 110 L/kg (Roubal, 1978)

Benzene Not anticipated to bioaccumulate

BCF: < 10 (OECD 305)

N-hexane Will bioaccumulate.

BCF: 501.187 L/Kg ((Q)SAR) (Veith GD and Broderius SJ. 1987)

Cyclohexane Not anticipated to bioaccumulate

BCF: < 67 L/kg (Veith et al. 1979)

Naphthalene Not anticipated to bioaccumulate

BCF: 168 (OECD 305)

Nonane No data

No data for the mixture as a whole.

Gasoline The substance is predicted to have low mobility in soil.

Immiscible with water.

Fuels, diesel, no. 2 Substance is complex UVCB. Standard tests for this endpoint are intended for

single substances and are not appropriate for this complex substance

Toluene The substance is predicted to have high mobility in soil.

Koc: 205 (European Chemicals Bureau, 2003)

Hexane (Other Isomers) No data

Xylene (o, m, p isomers) The substance has moderate mobility in soil.

LogKoc: 2.73 (Hodson & Williams, 1988) Ethanol The substance has high mobility in soil.

LogKoc: 0.2 (Schüürmann G et al. 2006)

Octane (All isomers) The substance has moderate mobility in soil.

LogKoc: 2.64 (Unnamed publication, 2010)

1,2,4-trimethylbenzene The substance is predicted to have moderate mobility in soil.

Log Koc: 3.04 (Sabljic A and Güsten H. 1995)

n-Heptane The substance is predicted to have moderate mobility in soil.

Log Koc: 3.12 (Unnamed publication, 2010)

Pentane The substance is predicted to have moderate mobility in soil.

Log Koc: 2.9 (Sabliic A and Güsten H. 1995)

Cumene The substance is predicted to have moderate mobility in soil.

Log Koc: 2.946 (Jeng, C.Y. et al. 1992)

Ethylbenzene The substance is predicted to have moderate mobility in soil.

Log Koc: 3.12 (USEPA, 2008)

Benzene The substance has high mobility in soil.

Koc: 134 L / Kg.

N-hexane The substance is predicted to have moderate mobility in soil.

Log Koc: 3.34 (Sabljic A and Güsten H. 1995)

Cyclohexane The substance is predicted to have moderate mobility in soil.

Log Koc: 2.99 (Sabljic A and Güsten H. 1995)

Naphthalene The substance has high mobility in soil. (Lindhardt, 1994)

Nonane No data

None known.

Toluene This chemical is known to leach through soil into ground water under certain

conditions.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Other adverse effects

Dispose of this material and its container as hazardous waste. Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. Disposal should be in accordance with local, state or national legislation. Containers of this material may be hazardous when empty since they retain product residue.

Sea transport (IMDG)

Air (ICAO/IATA)

SECTION 14: TRANSPORT INFORMATION

UN number UN1268 UN1268 UN1268

Road/rail (ADR/RID)

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Transmix

UN proper shipping name

Transport hazard class(es) Packing group

Environmental hazards

Special precautions for user

Transport in bulk according to Annex II of Marpol

and the IBC Code

PETROLEUM DISTILLATES, N.O.S.

3

Environmentally hazardous substance

See Section: 2 Not applicable

PETROLEUM DISTILLATES, N.O.S.

Classified as a Marine

Pollutant.

PETROLEUM DISTILLATES, N.O.S.

Environmentally hazardous substance

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal Regulations

EPCRA Section 313

CWA 307- Toxic

TSCA Chemical Data Reporting (CDR) Rule TSCA Inventory Status: All chemicals in this product comply with TSCA rules

and regulations including TSCA Section 5 (Inventory Rules).

Benzene: Listed NIOSH Occupational Carcinogen List

Gasoline: Listed

Hydrogen Sulfide: Listed (De Minimis limit: 1%) Benzene: Listed (De Minimis limit: 0.1%) N-hexane: Listed (De Minimis limit: 1%) Cumene: Listed (De Minimis limit: 1%) Naphthalene: Listed (De Minimis limit: 0.1%) Xylene: Listed (De Minimis limit: 1%)

Ethylbenzene: Listed (De Minimis limit: 0.1%) Toluene: Listed (De Minimis limit: 1%)

1,2,4-trimethylbenzene: Listed (De Minimis limit: 1%)

Cyclohexane: Listed (De Minimis limit: 1%)

Hydrogen Sulfide: Listed Benzene: Listed Naphthalene: Listed Ethylbenzene: Listed

Toluene: Listed Hydrogen Sulfide: Listed (RQ = 100 lbs) Benzene: Listed (RQ = 10 lbs) N-hexane: Listed (RQ = 5,000 lbs) Cumene: Listed (RQ = 5,000 lbs)

CERCLA - Hazardous Substances Naphthalene: Listed (RQ = 100 lbs)

Xylene: Listed (De Minimis limit: 1%) (RQ = 100 lbs)

Ethylbenzene: Listed (RQ = 1000 lbs) Toluene: Listed (RQ = 1000 lbs)

Hydrogen Sulfide: Listed Benzene: Listed Naphthalene: Listed

Xylene: Listed Ethylbenzene: Listed

Toluene: Listed Cyclohexane: Listed

US State Regulations

Benzene: Listed Proposition 65 (California)

N-hexane: Listed Cumene: Listed Naphthalene: Listed Ethylbenzene: Listed Toluene: Listed Ethanol: Listed

Massachusetts, New Jersey, Pennsylvania, Rhode

CWA Section 311 List of Hazardous Substances

Island- State Right to Know Lists

Petroleum: Listed Hydrogen Sulfide: Listed

Sulfur: Listed

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New York -State Right to Know Lists

Minnesota - State Right to Know Lists

Massachusetts - Toxic Use reduction act



Transmix

Benzene: Listed N-hexane: Listed Cumene: Listed Naphthalene: Listed Xylene: Listed Ethylbenzene: Listed Toluene: Listed

Gasoline: Listed (Massachusetts only)

Hexane (Other Isomers): Listed (Massachusetts only)

Octane (All isomers): Listed

Ethanol: Listed Pentane: Listed

1,2,4-trimethylbenzene: Listed

n-Heptane: Listed Petroleum: Listed Hydrogen Sulfide: Listed

Sulfur: Listed
Benzene: Listed
N-hexane: Listed
Cumene: Listed
Naphthalene: Listed
Xylene: Listed
Ethylbenzene: Listed
Toluene: Listed
Ethanol: Listed

Pentane: Listed

1,2,4-trimethylbenzene: Listed

n-Heptane: Listed
Petroleum: Listed
Hydrogen Sulfide: Listed
Benzene: Listed
N-hexane: Listed
Cumene: Listed
Naphthalene: Listed
Xylene: Listed
Ethylbenzene: Listed
Toluene: Listed

1,2,4-trimethylbenzene: Listed

n-Heptane: Listed Petroleum: Listed

Ethanol: Listed Pentane: Listed

Hydrogen Sulfide: Listed

Sulfur: Listed
Benzene: Listed
N-hexane: Listed
Cumene: Listed
Naphthalene: Listed
Xylene: Listed
Ethylbenzene: Listed
Toluene: Listed
Ethanol: Listed
Pentane: Listed

1,2,4-trimethylbenzene: Listed

n-Heptane: Listed

Non-Regional

IARC Monographs Petroleum: Listed

Benzene: Listed Naphthalene: Listed Xylene: Listed Ethylbenzene: Listed

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Toluene: Listed

Gasoline: Listed Ethanol: Listed

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Updated substance / mixture classification. Updated version and date. New format has been issued, all sections have been updated to include new information. Review SDS with care.

Version 3.0

Revision Date 14 April 2021

Date of First Issue Not available. 2ND ISSUE RELEASED JUNE, 15 2015

This Safety Data Sheet was prepared in accordance with US Regulation OSHA HCS (29 CFR 1910.1200)

References:

Existing Safety Data Sheet (SDS),

EU Harmonised Classification and Existing ECHA registration for Gasoline (CAS No. 86290-81-5); Fuels, diesel, no. 2 (CAS No. 68476-34-6); Toluene (CAS No. 108-88-3); Hexane (Other Isomers) (CAS No. 96-14-0); Xylene (o, m, p isomers) (CAS No.1330-20-7); Octane (All isomers) (CAS No. 111-65-9); Ethanol (CAS No. 64-17-5); 1,2,4-trimethylbenzene (CAS No. 95-63-6); n-Heptane (CAS No. 142-82-5); Pentane (CAS No. 109-66-0); Cumene (CAS No. 98-82-8); Ethylbenzene (CAS No. 100-41-4); Benzene (CAS No. 71-43-2); n-hexane (CAS No. 110-54-3); Cyclohexane (CAS No. 110-82-7); Naphthalene (CAS No. 91-20-3) and Nonane (CAS No. 111-84-2).

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Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200	Classification procedure
Flammable Liquid, Category 1	Flash point (°C) / Boiling Point (°C)
Aspiration hazard, Category 1	High percentage inclusion of components with Aspiration hazard
Skin Corrosion/Irritation, Category 2	Threshold Calculation
Eye Irritation, Category 2	Threshold Calculation
Acute toxicity, Category 3 (Inhalation)	ATE Calculation method
Specific target organ toxicity — single exposure, Category 3 (Respiratory Irritation)	Threshold Calculation
Specific target organ toxicity — single exposure, Category 3 (Narcotic effects)	Threshold Calculation
Carcinogen, Category 1A	Threshold Calculation
Germ cell mutagenicity, Category 1B	Threshold Calculation
Reproductive toxicity, Category 2	Threshold Calculation
Specific target organ toxicity — repeated exposure, Category 2	Threshold Calculation
Hazardous to the aquatic environment, Acute, Category 1	Summation Calculation
Hazardous to the aquatic environment, Chronic, Category 1	Summation Calculation

Legend

ADR/RID ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road / RID: Regulations

concerning the international railway transport of dangerous goods

ATE Acute Toxicity Estimate
BCF Bioconcentration factor (BCF)
CAS CAS: Chemical Abstracts Service

EC European Community
EN European Standard
EU European Union

IATA International Air Transport Association

ICAO/IATA ICAO: International Civil Aviation Organization / IATA: International Air Transport Association

IMDG International Maritime Dangerous Goods

Koc Soil Adsorption Coefficient

Kow Partition coefficient: n-octanol/water

LC50 Lethal concentration 50

LD50 Lethal dose 50

LOAEL Lowest dose adverse effect level LTEL Long Term Exposure Limit

NOAEC No Observed Averse Effect concentration
NOAEL No Observed Adverse Effect Level

OECD Organisation for Economic Cooperation and Development

PBT PBT: Persistent, Bioaccumulative and Toxic

PNEC Predicted No Effect Concentration

(Q)SAR Quantitative structure-activity relationship (QSAR)

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL Short Term Exposure Limit
TWA Time Weighted Average

UN United Nations

vPvB very Persistent and very Bioaccumulative

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

Disclaimers

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ACCORDING TO OSHA HCS (29 CFR 1910.1200)



Transmix

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