

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture	TR 502 Wax Build Up Remover
Registration number	-
Synonyms	None.
Issue date	11-March-2020
Version number	01
Revision date	-
Supersedes date	-

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

Identified uses	Wax remover.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Company name	TR Industries a Division of Granitize Products Inc.
Address	11022 Vulcan Street South Gate, CA 90280-0893 United States
Telephone	(562) 923-5438
Emergency telephone	CHEMTREC: (800) 424-9300 CHEMTREC International: 00 1-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards

Flammable liquids	Category 3	H226 - Flammable liquid and vapour.
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Health hazards

Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Specific target organ toxicity - single exposure	Category 3 narcotic effects	H336 - May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure	Category 1 (central nervous system)	H372 - Causes damage to organs (central nervous system) through prolonged or repeated exposure.
Aspiration hazard	Category 1	H304 - May be fatal if swallowed and enters airways.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard	Category 2	H411 - Toxic to aquatic life with long lasting effects.
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Hazard summary	May be ignited by heat, sparks or flames. Causes skin irritation. Causes serious eye irritation. May cause drowsiness and dizziness. Causes damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects. May be fatal if swallowed and enters airways. Dangerous for the environment if discharged into watercourses. Occupational exposure to the substance or mixture may cause adverse health effects.
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2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains:	1,2,4-Trimethyl benzene, 1,3,5-Trimethylbenzene, Diethylbenzene, Isopropyl alcohol, Mineral spirits, Solvent Naphta (petroleum), Light Aromatic
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Hazard pictograms



Signal word

Danger

Hazard statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H372	Causes damage to organs (central nervous system) through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist/vapours.
P273	Avoid release to the environment.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTRE/doctor/.
P331	Do NOT induce vomiting.
P391	Collect spillage.

Storage

P403 + P235	Store in a well-ventilated place. Keep cool.
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Disposal

Not assigned.

Supplemental label information

None.

2.3. Other hazards

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapour. May cause flash fire or explosion.

This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Solvent Naphta (petroleum), Light Aromatic	20 - 25	64742-95-6 265-199-0	-	649-356-00-4	
Classification:		Flam. Liq. 1;H224, Asp. Tox. 1;H304, Skin Irrit. 2;H315, STOT SE 3;H336, Aquatic Chronic 2;H411			
1,2,4-Trimethyl benzene	5 - 10	95-63-6 202-436-9	-	601-043-00-3	#
Classification:		Flam. Liq. 3;H226, Asp. Tox. 1;H304, Skin Irrit. 2;H315, Eye Irrit. 2;H319, Acute Tox. 4;H332, STOT SE 3;H335, Aquatic Chronic 2;H411			
Mineral spirits	5 - 10	64742-88-7 265-191-7	01-2119537181-47	649-405-00-X	
Classification:		Flam. Liq. 3;H226, Asp. Tox. 1;H304, Skin Irrit. 2;H315, STOT SE 3;H336, STOT RE 1;H372, Aquatic Chronic 2;H411			
1,3,5-Trimethylbenzene	1 - 5	108-67-8 203-604-4	-	601-025-00-5	#
Classification:		Flam. Liq. 3;H226, Asp. Tox. 1;H304, Skin Irrit. 2;H315, Eye Irrit. 2;H319, STOT SE 3;H335, Aquatic Chronic 2;H411			
Isopropyl alcohol	1 - 5	67-63-0 200-661-7	-	603-117-00-0	
Classification:		Flam. Liq. 2;H225, Eye Irrit. 2;H319, STOT SE 3;H336			
Diethylbenzene	1 - 2	25340-17-4 246-874-9	-	-	
Classification:		Flam. Liq. 3;H226, Asp. Tox. 1;H304, Skin Irrit. 2;H315, Aquatic Acute 1;H400, Aquatic Chronic 1;H410			

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Morpholine	1 - 2	110-91-8 203-815-1	-	613-028-00-9	#
Classification:	Flam. Liq. 3;H226, Acute Tox. 4;H302, Acute Tox. 4;H312, Skin Corr. 1B;H314, Acute Tox. 4;H332				
Oleic acid	1 - 2	112-80-1 204-007-1	-	-	
Classification:	-				
Cumene	0,1 - < 1	98-82-8 202-704-5	-	601-024-00-X	#
Classification:	Flam. Liq. 3;H226, Asp. Tox. 1;H304, STOT SE 3;H335, Aquatic Chronic 2;H411				
Xylene	0,1 - 1	1330-20-7 215-535-7	-	601-022-00-9	#
Classification:	Flam. Liq. 3;H226, Asp. Tox. 1;H304, Acute Tox. 4;H312, Skin Irrit. 2;H315, Eye Irrit. 2;H319, Acute Tox. 4;H332, STOT SE 3;H335, STOT SE 3;H336, STOT RE 2;H373				

List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).

Note C: Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

Composition comments

The full text for all H-statements is displayed in section 16.

All concentrations are in percent by weight unless otherwise indicated. Components not listed are either non-hazardous or are below reportable limits.

SECTION 4: First aid measures

General information

Take off all contaminated clothing immediately. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison centre or doctor/physician if you feel unwell.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact

Immediately 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 develops and persists.

Ingestion

Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

4.2. Most important symptoms and effects, both acute and delayed

Aspiration may cause pulmonary oedema and pneumonitis. May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioural changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

4.3. Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards

Flammable liquid and vapour.

5.1. Extinguishing media

Suitable extinguishing media

Water fog. Alcohol resistant foam. Carbon dioxide (CO₂). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapours. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained.

For emergency responders

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up.

6.2. Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

6.3. Methods and material for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist/vapours. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

7.2. Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see section 10 of the SDS).

7.3. Specific end use(s)

Wax remover.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List Components

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	MAK	100 mg/m3	
		20 ppm	
	STEL	150 mg/m3 30 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	MAK	100 mg/m3	
		20 ppm	
	STEL	150 mg/m3 30 ppm	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	MAK	4 mg/m3	Inhalable fraction.
Cumene (CAS 98-82-8)	MAK	100 mg/m3	
		20 ppm	
	STEL	250 mg/m3 50 ppm	
Isopropyl alcohol (CAS 67-63-0)	MAK	500 mg/m3	
		200 ppm	
	STEL	2000 mg/m3 800 ppm	
Morpholine (CAS 110-91-8)	MAK	36 mg/m3	
		10 ppm	
	STEL	36 mg/m3 10 ppm	
Xylene (CAS 1330-20-7)	MAK	221 mg/m3	
		50 ppm	
	STEL	442 mg/m3 100 ppm	

Belgium. Exposure Limit Values Components

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m3	
		20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m3	
		20 ppm	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TWA	100 mg/m3	
Isopropyl alcohol (CAS 67-63-0)	STEL	20 ppm 1000 mg/m3	
		400 ppm	
	TWA	500 mg/m3 200 ppm	

Belgium. Exposure Limit Values

Components	Type	Value	Form
Mineral spirits (CAS 64742-88-7)	TWA	200 mg/m ³	Vapour.
Morpholine (CAS 110-91-8)	STEL	72 mg/m ³	
		20 ppm	
	TWA	36 mg/m ³	
Xylene (CAS 1330-20-7)	STEL	10 ppm	
		442 mg/m ³	
	TWA	100 ppm	
	221 mg/m ³		
		50 ppm	

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m ³	
		20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m ³	
		20 ppm	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	10 mg/m ³	Inhalable fraction.
		0,07 mg/m ³	Respirable fraction.
Cumene (CAS 98-82-8)	STEL	250 mg/m ³	
		50 ppm	
	TWA	100 mg/m ³	
Diethylbenzene (CAS 25340-17-4)	TWA	20 ppm	
		10 mg/m ³	
Isopropyl alcohol (CAS 67-63-0)	STEL	1225 mg/m ³	
		980 mg/m ³	
Mineral spirits (CAS 64742-88-7)	TWA	300 mg/m ³	
Morpholine (CAS 110-91-8)	STEL	72 mg/m ³	
		20 ppm	
	TWA	36 mg/m ³	
Oleic acid (CAS 112-80-1)	TWA	10 ppm	
		10 mg/m ³	
	Xylene (CAS 1330-20-7)	STEL	
100 ppm			
	TWA	221 mg/m ³	
		50 ppm	

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	MAC	100 mg/m ³	
		20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	MAC	100 mg/m ³	
		20 ppm	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	MAC	6 mg/m ³	Total dust.
		0,1 mg/m ³	Respirable dust.

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value	Form
Cumene (CAS 98-82-8)	MAC	100 mg/m3 20 ppm	
	STEL	250 mg/m3 50 ppm	
Isopropyl alcohol (CAS 67-63-0)	MAC	999 mg/m3 400 ppm	
	STEL	1250 mg/m3 500 ppm	
Morpholine (CAS 110-91-8)	MAC	36 mg/m3 10 ppm	
	STEL	72 mg/m3 20 ppm	
Xylene (CAS 1330-20-7)	MAC	221 mg/m3 50 ppm	
	STEL	442 mg/m3 100 ppm	

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value	Form
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	2 mg/m3	
Cumene (CAS 98-82-8)	TWA	245 mg/m3 50 ppm	
	TWA	980 mg/m3 400 ppm	

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	Ceiling	250 mg/m3	
	TWA	100 mg/m3	
1,3,5-Trimethylbenzene (CAS 108-67-8)	Ceiling	250 mg/m3	
	TWA	100 mg/m3	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	4 mg/m3	Dust.
Cumene (CAS 98-82-8)	Ceiling	250 mg/m3	
	TWA	100 mg/m3	
Isopropyl alcohol (CAS 67-63-0)	Ceiling	1000 mg/m3	
	TWA	500 mg/m3	
Morpholine (CAS 110-91-8)	Ceiling	70 mg/m3	
	TWA	35 mg/m3	
Xylene (CAS 1330-20-7)	Ceiling	400 mg/m3	
	TWA	200 mg/m3	

Denmark. Exposure Limit Values

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TLV	100 mg/m3 20 ppm

Denmark. Exposure Limit Values

Components	Type	Value
1,3,5-Trimethylbenzene (CAS 108-67-8)	TLV	100 mg/m ³
		20 ppm
Cumene (CAS 98-82-8)	TLV	100 mg/m ³
		20 ppm
Isopropyl alcohol (CAS 67-63-0)	TLV	490 mg/m ³
		200 ppm
Morpholine (CAS 110-91-8)	TLV	36 mg/m ³
		10 ppm
Xylene (CAS 1330-20-7)	TLV	109 mg/m ³
		25 ppm

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m ³	
		20 ppm	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	2 mg/m ³	Fine dust, respiratory fraction
Cumene (CAS 98-82-8)	STEL	250 mg/m ³	
		50 ppm	
	TWA	100 mg/m ³	
		20 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	600 mg/m ³	
		250 ppm	
	TWA	350 mg/m ³	
		150 ppm	
Mineral spirits (CAS 64742-88-7)	TWA	1 mg/m ³	Vapour.
Morpholine (CAS 110-91-8)	STEL	72 mg/m ³	
		20 ppm	
	TWA	36 mg/m ³	
		10 ppm	
Xylene (CAS 1330-20-7)	STEL	450 mg/m ³	
		100 ppm	
	TWA	200 mg/m ³	
		50 ppm	

Finland. Workplace Exposure Limits

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m ³
		20 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m ³
		20 ppm
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	5 mg/m ³
Cumene (CAS 98-82-8)	STEL	250 mg/m ³
		50 ppm

Finland. Workplace Exposure Limits

Components	Type	Value
Isopropyl alcohol (CAS 67-63-0)	TWA	100 mg/m3 20 ppm
	STEL	620 mg/m3
Morpholine (CAS 110-91-8)	TWA	250 ppm 500 mg/m3
	STEL	200 ppm 72 mg/m3
Solvent Naphta (petroleum), Light Aromatic (CAS 64742-95-6)	TWA	20 ppm 36 mg/m3
	STEL	10 ppm 100 mg/m3
Xylene (CAS 1330-20-7)	TWA	440 mg/m3 100 ppm
	STEL	220 mg/m3 50 ppm

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	VLE	250 mg/m3
Regulatory status: Regulatory binding (VRC)		50 ppm
Regulatory status: Regulatory binding (VRC)	VME	100 mg/m3
Regulatory status: Regulatory binding (VRC)		20 ppm
Regulatory status: Regulatory binding (VRC)		
1,3,5-Trimethylbenzene (CAS 108-67-8)	VLE	250 mg/m3
Regulatory status: Regulatory binding (VRC)		50 ppm
Regulatory status: Regulatory binding (VRC)	VME	100 mg/m3
Regulatory status: Regulatory binding (VRC)		20 ppm
Regulatory status: Regulatory binding (VRC)		
Cumene (CAS 98-82-8)	VLE	250 mg/m3
Regulatory status: Regulatory binding (VRC)		50 ppm
Regulatory status: Regulatory binding (VRC)	VME	100 mg/m3
Regulatory status: Regulatory binding (VRC)		20 ppm
Regulatory status: Regulatory binding (VRC)		
Isopropyl alcohol (CAS 67-63-0)	VLE	980 mg/m3
Regulatory status: Indicative limit (VL)		400 ppm
Regulatory status: Indicative limit (VL)		
Morpholine (CAS 110-91-8)	VLE	72 mg/m3
Regulatory status: Regulatory binding (VRC)		

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value
		20 ppm
Regulatory status:	Regulatory binding (VRC)	
	VME	36 mg/m3
Regulatory status:	Regulatory binding (VRC)	
		10 ppm
Regulatory status:	Regulatory binding (VRC)	
Xylene (CAS 1330-20-7)	VLE	442 mg/m3
Regulatory status:	Regulatory binding (VRC)	
		100 ppm
Regulatory status:	Regulatory binding (VRC)	
	VME	221 mg/m3
Regulatory status:	Regulatory binding (VRC)	
		50 ppm
Regulatory status:	Regulatory binding (VRC)	

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m3	
		20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m3	
		20 ppm	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	4 mg/m3	Inhalable fraction.
Cumene (CAS 98-82-8)	TWA	50 mg/m3	
		10 ppm	
Diethylbenzene (CAS 25340-17-4)	TWA	28 mg/m3	
		5 ppm	
Isopropyl alcohol (CAS 67-63-0)	TWA	500 mg/m3	
		200 ppm	
Morpholine (CAS 110-91-8)	TWA	36 mg/m3	
		10 ppm	
Xylene (CAS 1330-20-7)	TWA	440 mg/m3	
		100 ppm	

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	AGW	100 mg/m3	
		20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	AGW	100 mg/m3	
		20 ppm	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	AGW	4 mg/m3	Inhalable fraction.
Cumene (CAS 98-82-8)	AGW	50 mg/m3	
		10 ppm	
Isopropyl alcohol (CAS 67-63-0)	AGW	500 mg/m3	
		200 ppm	

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
Morpholine (CAS 110-91-8)	AGW	36 mg/m ³ 10 ppm	
Xylene (CAS 1330-20-7)	AGW	200 mg/m ³	

Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	125 mg/m ³ 25 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	125 mg/m ³ 25 ppm
Cumene (CAS 98-82-8)	STEL	370 mg/m ³ 75 ppm
	TWA	245 mg/m ³ 50 ppm
Isopropyl alcohol (CAS 67-63-0)	STEL	1225 mg/m ³ 500 ppm
	TWA	980 mg/m ³ 400 ppm
Morpholine (CAS 110-91-8)	STEL	72 mg/m ³ 20 ppm
	TWA	36 mg/m ³ 10 ppm
Xylene (CAS 1330-20-7)	STEL	650 mg/m ³ 150 ppm
	TWA	435 mg/m ³ 100 ppm

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m ³
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m ³
Cumene (CAS 98-82-8)	STEL	250 mg/m ³
	TWA	100 mg/m ³
Isopropyl alcohol (CAS 67-63-0)	STEL	2000 mg/m ³
	TWA	500 mg/m ³
Morpholine (CAS 110-91-8)	STEL	72 mg/m ³
	TWA	36 mg/m ³
Xylene (CAS 1330-20-7)	STEL	442 mg/m ³
	TWA	221 mg/m ³

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m ³ 20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m ³ 20 ppm	

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	1,5 mg/m3	Respirable dust.
Cumene (CAS 98-82-8)	STEL	250 mg/m3 50 ppm	
	TWA	100 mg/m3 20 ppm	
Isopropyl alcohol (CAS 67-63-0)	TWA	490 mg/m3 200 ppm	
Morpholine (CAS 110-91-8)	STEL	72 mg/m3 20 ppm	
	TWA	36 mg/m3 10 ppm	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3 100 ppm	
	TWA	109 mg/m3 25 ppm	

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m3 20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m3 20 ppm	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	6 mg/m3	Total inhalable dust.
Cumene (CAS 98-82-8)	STEL	2,4 mg/m3 250 mg/m3 50 ppm	Respirable dust.
	TWA	100 mg/m3 20 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	
Morpholine (CAS 110-91-8)	STEL	72 mg/m3 20 ppm	
	TWA	36 mg/m3 10 ppm	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3 100 ppm	
	TWA	221 mg/m3 50 ppm	

Italy. OELs

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m3 20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m3 20 ppm	

Italy. OELs Components	Type	Value	Form
Cumene (CAS 98-82-8)	STEL	250 mg/m3 50 ppm	Non-aerosol.
	TWA	100 mg/m3 20 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	
Mineral spirits (CAS 64742-88-7)	TWA	200 mg/m3	
Morpholine (CAS 110-91-8)	STEL	72 mg/m3 20 ppm	
	TWA	36 mg/m3 10 ppm	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3 100 ppm	
	TWA	221 mg/m3 50 ppm	

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m3 20 ppm
	TWA	100 mg/m3 20 ppm
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	1 mg/m3
Cumene (CAS 98-82-8)	STEL	250 mg/m3 50 ppm
	TWA	100 mg/m3 20 ppm
Isopropyl alcohol (CAS 67-63-0)	STEL	600 mg/m3
	TWA	350 mg/m3
Mineral spirits (CAS 64742-88-7)	TWA	10 mg/m3
Morpholine (CAS 110-91-8)	STEL	72 mg/m3 20 ppm
	TWA	36 mg/m3 10 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m3 100 ppm
	TWA	221 mg/m3 50 ppm

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (Hygiene Norm HN 23:2007)

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m3 20 ppm
	STEL	150 mg/m3 30 ppm

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (Hygiene Norm HN 23:2007)

Components	Type	Value
	TWA	100 mg/m ³ 20 ppm
Cumene (CAS 98-82-8)	STEL	170 mg/m ³ 35 ppm
	TWA	100 mg/m ³ 20 ppm
Diethylbenzene (CAS 25340-17-4)	TWA	10 mg/m ³
Isopropyl alcohol (CAS 67-63-0)	STEL	600 mg/m ³ 250 ppm
	TWA	350 mg/m ³ 150 ppm
Morpholine (CAS 110-91-8)	STEL	72 mg/m ³ 20 ppm
	TWA	36 mg/m ³ 10 ppm
Solvent Naphta (petroleum), Light Aromatic (CAS 64742-95-6)	STEL	600 mg/m ³ 100 ppm
	TWA	300 mg/m ³ 50 ppm
Xylene (CAS 1330-20-7)	STEL	450 mg/m ³ 100 ppm
	TWA	200 mg/m ³ 50 ppm

Luxembourg. Binding Occupational exposure limit values (Annex I), Memorial A

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m ³ 20 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m ³ 20 ppm
Cumene (CAS 98-82-8)	STEL	250 mg/m ³ 50 ppm
	TWA	100 mg/m ³ 20 ppm
Morpholine (CAS 110-91-8)	STEL	72 mg/m ³ 20 ppm
	TWA	36 mg/m ³ 10 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m ³ 100 ppm
	TWA	221 mg/m ³ 50 ppm

Malta. OELs. Occupational Exposure Limit Values (L.N. 227. of Occupational Health and Safety Authority Act (CAP. 424), Schedules I and V)

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m ³

Malta. OELs. Occupational Exposure Limit Values (L.N. 227. of Occupational Health and Safety Authority Act (CAP. 424), Schedules I and V)

Components	Type	Value
		20 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m3
		20 ppm
Cumene (CAS 98-82-8)	STEL	250 mg/m3
		50 ppm
	TWA	100 mg/m3
		20 ppm
Morpholine (CAS 110-91-8)	STEL	72 mg/m3
		20 ppm
	TWA	36 mg/m3
		10 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m3
		100 ppm
	TWA	221 mg/m3
		50 ppm

Netherlands. OELs (binding)

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	STEL	200 mg/m3
	TWA	100 mg/m3
1,3,5-Trimethylbenzene (CAS 108-67-8)	STEL	200 mg/m3
	TWA	100 mg/m3
Cumene (CAS 98-82-8)	STEL	250 mg/m3
	TWA	100 mg/m3
Morpholine (CAS 110-91-8)	STEL	72 mg/m3
	TWA	36 mg/m3
Xylene (CAS 1330-20-7)	STEL	442 mg/m3
	TWA	210 mg/m3

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	TLV	100 mg/m3	
		20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	TLV	100 mg/m3	
		20 ppm	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TLV	1,5 mg/m3	Respirable dust.
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TLV	100 mg/m3	
		20 ppm	
Isopropyl alcohol (CAS 67-63-0)	TLV	245 mg/m3	
		100 ppm	
Morpholine (CAS 110-91-8)	TLV	36 mg/m3	
		10 ppm	
Xylene (CAS 1330-20-7)	TLV	108 mg/m3	

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
		25 ppm	
Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817			
Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	STEL	170 mg/m3	
	TWA	100 mg/m3	
1,3,5-Trimethylbenzene (CAS 108-67-8)	STEL	170 mg/m3	
	TWA	100 mg/m3	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	2 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
	TWA	50 mg/m3	
Diethylbenzene (CAS 25340-17-4)	STEL	400 mg/m3	
	TWA	100 mg/m3	
Isopropyl alcohol (CAS 67-63-0)	STEL	1200 mg/m3	
	TWA	900 mg/m3	
Mineral spirits (CAS 64742-88-7)	STEL	300 mg/m3	
	TWA	100 mg/m3	
Morpholine (CAS 110-91-8)	STEL	72 mg/m3	
	TWA	36 mg/m3	
Xylene (CAS 1330-20-7)	TWA	100 mg/m3	

Portugal. OELs. Decree-Law n. 290/2001 (Journal of the Republic - 1 Series A, n.266)

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m3	
		20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m3	
		20 ppm	
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TWA	100 mg/m3	
		20 ppm	
Morpholine (CAS 110-91-8)	STEL	72 mg/m3	
		20 ppm	
	TWA	36 mg/m3	
		10 ppm	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value	Form
Cumene (CAS 98-82-8)	TWA	50 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	400 ppm	

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value	Form
	TWA	200 ppm	
Mineral spirits (CAS 64742-88-7)	TWA	200 mg/m3	Non-aerosol.
Morpholine (CAS 110-91-8)	TWA	20 ppm	
Xylene (CAS 1330-20-7)	STEL	150 ppm	
	TWA	100 ppm	

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m3
		20 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m3
		20 ppm
Cumene (CAS 98-82-8)	STEL	250 mg/m3
		50 ppm
	TWA	100 mg/m3
		20 ppm
Isopropyl alcohol (CAS 67-63-0)	STEL	500 mg/m3
		203 ppm
	TWA	200 mg/m3
		81 ppm
Mineral spirits (CAS 64742-88-7)	STEL	200 mg/m3
		100 mg/m3
Morpholine (CAS 110-91-8)	STEL	72 mg/m3
		20 ppm
	TWA	36 mg/m3
		10 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m3
		100 ppm
	TWA	221 mg/m3
		50 ppm

Slovakia. OELs. Decree of the government of the Slovak Republic concerning protection of health in work with chemical agents

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m3
		20 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m3
		20 ppm
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	0,3 mg/m3
Cumene (CAS 98-82-8)	TWA	100 mg/m3
		20 ppm
Isopropyl alcohol (CAS 67-63-0)	TWA	500 mg/m3
		200 ppm
Morpholine (CAS 110-91-8)	TWA	36 mg/m3
		10 ppm

Slovakia. OELs. Decree of the government of the Slovak Republic concerning protection of health in work with chemical agents

Components	Type	Value
Xylene (CAS 1330-20-7)	TWA	221 mg/m ³ 50 ppm

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value
Cumene (CAS 98-82-8)	STEL	250 mg/m ³ 50 ppm
Isopropyl alcohol (CAS 67-63-0)	STEL	1000 mg/m ³ 400 ppm
Morpholine (CAS 110-91-8)	STEL	72 mg/m ³ 20 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m ³ 100 ppm

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m ³ 20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m ³ 20 ppm	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	4 mg/m ³	Inhalable fraction.
Cumene (CAS 98-82-8)	TWA	100 mg/m ³ 20 ppm	
Isopropyl alcohol (CAS 67-63-0)	TWA	500 mg/m ³ 200 ppm	
Morpholine (CAS 110-91-8)	TWA	36 mg/m ³ 10 ppm	
Xylene (CAS 1330-20-7)	TWA	221 mg/m ³ 50 ppm	

Spain. Occupational Exposure Limits

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m ³ 20 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m ³ 20 ppm
Cumene (CAS 98-82-8)	STEL	250 mg/m ³ 50 ppm
	TWA	100 mg/m ³ 20 ppm
Isopropyl alcohol (CAS 67-63-0)	STEL	1000 mg/m ³ 400 ppm
	TWA	500 mg/m ³ 200 ppm

Spain. Occupational Exposure Limits Components

Components	Type	Value
Mineral spirits (CAS 64742-88-7)	TWA	200 mg/m ³
Morpholine (CAS 110-91-8)	STEL	72 mg/m ³
		20 ppm
	TWA	36 mg/m ³
		10 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m ³
		100 ppm
	TWA	221 mg/m ³
		50 ppm

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7) Components

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	Ceiling	170 mg/m ³
		35 ppm
	TWA	100 mg/m ³
		20 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	Ceiling	170 mg/m ³
		35 ppm
	TWA	100 mg/m ³
		20 ppm
Cumene (CAS 98-82-8)	Ceiling	250 mg/m ³
		50 ppm
	TWA	100 mg/m ³
		20 ppm
Isopropyl alcohol (CAS 67-63-0)	STEL	600 mg/m ³
		250 ppm
	TWA	350 mg/m ³
		150 ppm
Morpholine (CAS 110-91-8)	Ceiling	72 mg/m ³
		20 ppm
	TWA	35 mg/m ³
		10 ppm
Xylene (CAS 1330-20-7)	Ceiling	442 mg/m ³
		100 ppm
	TWA	221 mg/m ³
		50 ppm

Switzerland. SUVA Grenzwerte am Arbeitsplatz Components

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	STEL	200 mg/m ³	
		40 ppm	
	TWA	100 mg/m ³	
		20 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	STEL	200 mg/m ³	
		40 ppm	
	TWA	100 mg/m ³	
		20 ppm	

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	4 mg/m3	Inhalable fraction.
Cumene (CAS 98-82-8)	STEL	400 mg/m3 80 ppm	
	TWA	100 mg/m3 20 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	1000 mg/m3 400 ppm	
	TWA	500 mg/m3 200 ppm	
Mineral spirits (CAS 64742-88-7)	TWA	1100 mg/m3 300 ppm	
Morpholine (CAS 110-91-8)	STEL	72 mg/m3 20 ppm	
	TWA	36 mg/m3 10 ppm	
Xylene (CAS 1330-20-7)	STEL	870 mg/m3 200 ppm	
	TWA	435 mg/m3 100 ppm	

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	125 mg/m3 25 ppm	
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	125 mg/m3 25 ppm	
Amorphous Silica: Uncalcinated Diatomaceous Earth (CAS 61790-53-2)	TWA	6 mg/m3	Inhalable dust.
Cumene (CAS 98-82-8)	STEL	2,4 mg/m3 250 mg/m3 50 ppm	Respirable dust.
	TWA	125 mg/m3 25 ppm	
Isopropyl alcohol (CAS 67-63-0)	STEL	1250 mg/m3 500 ppm	
	TWA	999 mg/m3 400 ppm	
Morpholine (CAS 110-91-8)	STEL	72 mg/m3 20 ppm	
	TWA	36 mg/m3 10 ppm	
Xylene (CAS 1330-20-7)	STEL	441 mg/m3 100 ppm	
	TWA	220 mg/m3 50 ppm	

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU

Components	Type	Value
1,2,4-Trimethyl benzene (CAS 95-63-6)	TWA	100 mg/m ³
		20 ppm
1,3,5-Trimethylbenzene (CAS 108-67-8)	TWA	100 mg/m ³
		20 ppm
Cumene (CAS 98-82-8)	STEL	250 mg/m ³
		50 ppm
	TWA	100 mg/m ³
		20 ppm
Morpholine (CAS 110-91-8)	STEL	72 mg/m ³
		20 ppm
	TWA	36 mg/m ³
		10 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m ³
		100 ppm
	TWA	221 mg/m ³
		50 ppm

Biological limit values

Croatia. BLV. Dangerous Substance Exposure Limit Values at Workplace, Annexes 4 (as amended)

Components	Value	Determinant	Specimen	Sampling Time
1,3,5-Trimethylbenzene (CAS 108-67-8)	400 mg/g	Dimethylbenzoic acid (sum of all isomers)	Creatinine in urine	*
Isopropyl alcohol (CAS 67-63-0)	50 mg/l	Acetone	Blood	*
	50 mg/l	Acetone	Urine	*
Xylene (CAS 1330-20-7)	1,5 g/g	Methylhippuric acids	Creatinine in blood	*
	1,5 mg/l	Xylene	Blood	*
	0,88 mol/mol	Methylhippuric acids	Creatinine in blood	*
	14,13 umol/l	Xylene	Blood	*

* - For sampling details, please see the source document.

Czech Republic. Limit Values for Indicators of Biological Exposure Tests in Urine and Blood, Annex 2, Tables 1 and 2, Government Decree 432/2003 Sb.

Components	Value	Determinant	Specimen	Sampling Time
Xylene (CAS 1330-20-7)	820 µmol/mmol	Methylhippuric acids	Creatinine in urine	*
	1400 mg/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Finland. HTP-arvot, App 2., Biological Limit Values, (BRA/BGV) , Social Affairs and Ministry of Health

Components	Value	Determinant	Specimen	Sampling Time
Xylene (CAS 1330-20-7)	5 mmol/l	Methylhippuric acids	Urine	*

* - For sampling details, please see the source document.

France. Biological indicators of exposure (IBE) (National Institute for Research and Security (INRS, ND 2065)

Components	Value	Determinant	Specimen	Sampling Time
Xylene (CAS 1330-20-7)	1500 mg/g	Acides méthylhippuriques	Creatinine in urine	*

* - For sampling details, please see the source document.

Germany. TRGS 903, BAT List (Biological Limit Values)

Components	Value	Determinant	Specimen	Sampling Time
1,2,4-Trimethyl benzene (CAS 95-63-6)	400 mg/g	Dimethylbenzo esäuren (Summe aller Isomeren nach Hydrolyse)	Creatinine in urine	*
1,3,5-Trimethylbenzene (CAS 108-67-8)	400 mg/g	Dimethylbenzo esäuren (Summe aller Isomeren nach Hydrolyse)	Creatinine in urine	*
Cumene (CAS 98-82-8)	10 mg/g	2-Phenyl-2-propanol (nach Hydrolyse)	Creatinine in urine	*
Isopropyl alcohol (CAS 67-63-0)	25 mg/l	ACETON	Blood	*
	25 mg/l	ACETON	Urine	*
Xylene (CAS 1330-20-7)	2000 mg/l	Methylhippur-(Tolur-) säure (alle Isomere)	Urine	*

* - For sampling details, please see the source document.

Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices

Components	Value	Determinant	Specimen	Sampling Time
Xylene (CAS 1330-20-7)	1500 mg/g	methyl hippuric acids	Creatinine in urine	*
	860 µmol/mmol	methyl hippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Slovakia. BLVs (Biological Limit Value). Regulation no. 355/2006 concerning protection of workers exposed to chemical agents, Annex 2

Components	Value	Determinant	Specimen	Sampling Time
Xylene (CAS 1330-20-7)	1334 mg/g	Methylhippuric acids	Creatinine in urine	*
	2000 mg/l	Methylhippuric acids	Urine	*
	1,5 mg/l	Xylene	Blood	*

* - For sampling details, please see the source document.

Spain. Biological Limit Values (VLBs), Occupational Exposure Limits for Chemical Agents, Table 4

Components	Value	Determinant	Specimen	Sampling Time
Isopropyl alcohol (CAS 67-63-0)	40 mg/l	Acetona	Urine	*
Xylene (CAS 1330-20-7)	1 g/g	Ácidos metilhipúricos	Creatinine in urine	*

* - For sampling details, please see the source document.

Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)

Components	Value	Determinant	Specimen	Sampling Time
Cumene (CAS 98-82-8)	20 mg/g	2-Phenyl-2-propanol (nach Hydrolyse)	Creatinine in urine	*
Isopropyl alcohol (CAS 67-63-0)	25 mg/l	ACETON	Urine	*
	25 mg/l	ACETON	Blood	*
Xylene (CAS 1330-20-7)	2 g/l	Methyl-Hippursäure	Urine	*

* - For sampling details, please see the source document.

UK. EH40 Biological Monitoring Guidance Values (BMGVs)

Components	Value	Determinant	Specimen	Sampling Time
Xylene (CAS 1330-20-7)	650 mmol/mol	Methyl hippuric acid	Creatinine in urine	*

* - For sampling details, please see the source document.

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines**EU Exposure Limit Values: Skin designation**

Cumene (CAS 98-82-8) Can be absorbed through the skin.
Xylene (CAS 1330-20-7) Can be absorbed through the skin.

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Cumene (CAS 98-82-8) Can be absorbed through the skin.
Morpholine (CAS 110-91-8) Can be absorbed through the skin.
Xylene (CAS 1330-20-7) Can be absorbed through the skin.

8.2. Exposure controls

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Explosion-proof general and local exhaust ventilation. Provide easy access to water supply and eye wash facilities.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Wear safety glasses with side shields (or goggles). Wear face shield if there is risk of splashes. Eye protection should meet standard EN 166.

Skin protection

- Hand protection Wear suitable gloves tested to EN374. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Neoprene, butyl rubber, nitrile or Viton® gloves are recommended. Other suitable gloves can be recommended by the glove supplier.

- Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use respiratory equipment with combination filter, type A2/P2. Respiratory protection should meet standard EN 14387. Check with respiratory protective equipment suppliers.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance**

Physical state Liquid.

Form Liquid.

Colour Off-white.

Odour Solvent.

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range	Not available.
Flash point	> 38,0 °C (> 100,4 °F) (Estimated)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
9.2. Other information	No relevant additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Protect against direct sunlight. Contact with incompatible materials.
10.5. Incompatible materials	Acids. Strong oxidising agents. Chlorine. Fluorine. Isocyanates.
10.6. Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Inhalation	May cause drowsiness and dizziness. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May be absorbed through the skin.
Eye contact	Causes serious eye irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms	Aspiration may cause pulmonary oedema and pneumonitis. May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioural changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

11.1. Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
1,2,4-Trimethyl benzene (CAS 95-63-6)		
<u>Acute</u>		
Oral		
LD50	Rat	2720 - 3960 mg/kg
Diethylbenzene (CAS 25340-17-4)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	2050 mg/kg

Components	Species	Test Results
Isopropyl alcohol (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	12870 mg/kg
Inhalation		
<i>Vapour</i>		
LC50	Rat	72,6 mg/l, 4 hours
Oral		
LD50	Rat	4710 mg/kg
Mineral spirits (CAS 64742-88-7)		
Acute		
Dermal		
LD50	Rabbit	3000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Morpholine (CAS 110-91-8)		
Acute		
Dermal		
LD50	Rabbit	500 mg/kg
Inhalation		
LC50	Rat	8000 ppm, 8 hours
Oral		
LD50	Rat	1050 mg/kg
Xylene (CAS 1330-20-7)		
Acute		
Oral		
LD50	Rat	3523 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible.	
Skin sensitisation	Due to partial or complete lack of data the classification is not possible.	
Germ cell mutagenicity	Based on available data, the classification criteria are not met.	
Carcinogenicity	Risk of cancer cannot be excluded with prolonged exposure.	
Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)		
Mineral spirits (CAS 64742-88-7)		
Solvent Naphta (petroleum), Light Aromatic (CAS 64742-95-6)		
IARC Monographs. Overall Evaluation of Carcinogenicity		
Cumene (CAS 98-82-8)	2B Possibly carcinogenic to humans.	
Isopropyl alcohol (CAS 67-63-0)	3 Not classifiable as to carcinogenicity to humans.	
Mineral spirits (CAS 64742-88-7)	3 Not classifiable as to carcinogenicity to humans.	
Morpholine (CAS 110-91-8)	3 Not classifiable as to carcinogenicity to humans.	
Solvent Naphta (petroleum), Light Aromatic (CAS 64742-95-6)	3 Not classifiable as to carcinogenicity to humans.	
Xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.	
Reproductive toxicity	Based on available data, the classification criteria are not met.	
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.	
Specific target organ toxicity - repeated exposure	Causes damage to organs (central nervous system) through prolonged or repeated exposure.	
Aspiration hazard	May be fatal if swallowed and enters airways.	
Mixture versus substance information	No information available.	
Other information	Symptoms may be delayed.	

SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects.

Components		Species	Test Results
1,2,4-Trimethyl benzene (CAS 95-63-6)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	7,72 mg/l, 96 hours
Diethylbenzene (CAS 25340-17-4)			
Aquatic			
<i>Acute</i>			
Algae	ErC50	<i>Pseudokirchneriella subcapitata</i>	1,21 mg/l, 72 hours
Crustacea	EC50	<i>Daphnia magna</i>	2,01 mg/l, 48 hours
Fish	LC50	<i>Oncorhynchus mykiss</i>	0,673 mg/l, 96 hours
Isopropyl alcohol (CAS 67-63-0)			
Aquatic			
<i>Acute</i>			
Crustacea	LC50	<i>Daphnia magna</i>	> 10000 mg/l, 24 hours
Fish	LC50	<i>Pimephales promelas</i>	9640 mg/l, 96 hours
<i>Chronic</i>			
Crustacea	EC50	<i>Daphnia magna</i>	> 100 mg/l, 21 days
	NOEC	<i>Daphnia magna</i>	141 mg/l, 16 days
			30 mg/l, 21 days
Xylene (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>)	2,6 mg/l, 96 hours

12.2. Persistence and degradability No data is available on the degradability of this product.

12.3. Bioaccumulative potential

Partition coefficient

n-octanol/water (log Kow)

Cumene (CAS 98-82-8)	3,66
Isopropyl alcohol (CAS 67-63-0)	0,05
Morpholine (CAS 110-91-8)	-0,86
Xylene (CAS 1330-20-7)	3,12 - 3,2

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available for this product.

12.5. Results of PBT and vPvB assessment This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

12.6. Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

12.7. Additional information

Estonia Dangerous substances in groundwater Data

Isopropyl alcohol (CAS 67-63-0)	Pesticides (total) 0,5 ug/l Pesticides (total) 5 ug/l
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Estonia Dangerous substances in soil Data

Isopropyl alcohol (CAS 67-63-0)	Synthetic pesticides (total of active substances) 0,5 mg/kg Synthetic pesticides (total of active substances) 20 mg/kg Synthetic pesticides (total of active substances) 5 mg/kg
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN1268
14.2. UN proper shipping name	PETROLEUM PRODUCTS, N.O.S.
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Hazard No. (ADR)	30
Tunnel restriction code	D/E
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN1268
14.2. UN proper shipping name	PETROLEUM PRODUCTS, N.O.S.
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN1268
14.2. UN proper shipping name	PETROLEUM PRODUCTS, N.O.S.
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing group	III
14.5. Environmental hazards	Yes
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN1268
14.2. UN proper shipping name	Petroleum products, n.o.s.
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing group	III
14.5. Environmental hazards	Yes
ERG Code	3L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number	UN1268
14.2. UN proper shipping name	PETROLEUM PRODUCTS, N.O.S.
14.3. Transport hazard class(es)	
Class	3

Subsidiary risk	-
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-E
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Xylene (CAS 1330-20-7)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Isopropyl alcohol (CAS 67-63-0)

Mineral spirits (CAS 64742-88-7)

Solvent Naphta (petroleum), Light Aromatic (CAS 64742-95-6)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Mineral spirits (CAS 64742-88-7)

Solvent Naphta (petroleum), Light Aromatic (CAS 64742-95-6)

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

1,2,4-Trimethyl benzene (CAS 95-63-6)

1,3,5-Trimethylbenzene (CAS 108-67-8)

Cumene (CAS 98-82-8)

Isopropyl alcohol (CAS 67-63-0)

Morpholine (CAS 110-91-8)

Xylene (CAS 1330-20-7)

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road.

IATA: International Air Transport Association.

IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.

IMDG Code: International Maritime Dangerous Goods Code.

MARPOL: International Convention for the Prevention of Pollution from Ships.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.

STEL: Short-Term Exposure Limit.

TWA: Time Weighted Average Value.

References

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

EPA: AQUIRE database

HSDB® - Hazardous Substances Data Bank

IARC Monographs. Overall Evaluation of Carcinogenicity

National Toxicology Program (NTP) Report on Carcinogens

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any H-statements not written out in full under Sections 2 to 15

H224 Extremely flammable liquid and vapour.

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H372 Causes damage to organs through prolonged or repeated exposure.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

Training information

Follow training instructions when handling this material.

Disclaimer

TR Industries cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.