SAFETY DATA SHEET

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

1.1. Product identifier

Trade name or designation of the mixture	QUICK SAND 2K PRIMER - GREY
Registration number	-
Synonyms	None.
Product code	MP-2KGR-G
Issue date	29-April-2015
Version number	01

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

Identified uses	Automotive Refinish Primer
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name	Quest Automotive Products	
Address	600 Nova Drive SE Massillon, OH 44646 United States	
Division	Massillon	
Telephone	General Assistance	(330) 830-6000
e-mail	rpandrus@quest-ap.com	
Contact person	Not available.	
1.4. Emergency telephone number	CHEMTREC	(800) 424-9300

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 Directive 67/548/EEC or 1999/45/EC as amended

Classification	F;R11, Xn;R20/21

The full text for all R-phrases is displayed in section 16.

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

Physical hazards		
Flammable liquids	Category 2	H225 - Highly flammable liquid and vapour.
Health hazards		
Acute toxicity, dermal	Category 4	H312 - Harmful in contact with skin.
Acute toxicity, inhalation	Category 4	H332 - Harmful if inhaled.
Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Carcinogenicity	Category 1A	H350 - May cause cancer.
Reproductive toxicity (the unborn child)	Category 2	H361d - Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	Category 3 narcotic effects	H336 - May cause drowsiness or dizziness.
Environmental hazards		
Hazardous to the aquatic environment, long-term aquatic hazard	Category 3	H412 - Harmful to aquatic life with long lasting effects.

Hazard summary

Physical hazards	Highly flammable.
Health hazards	Harmful by inhalation and in contact with skin. Occupational exposure to the substance or mixture may cause adverse health effects.
Environmental hazards	Not classified for hazards to the environment.

Specific hazards Prolonged exposure may cause chronic effects.

Main symptoms May cause drowsiness and dizziness. Headache. Nausea, vomiting. Skin irritation. May cause redness and pain.

2.2. Label elements

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

Contains: 2-Butanone, Carbon Black, Cumene, Ethyl benzene, Isobutyl acetate, Silicon dioxide, Styrene, monomer, Titanium dioxide, Toluene, Xylene

Hazard pictograms

Signal word Danger

Hazard statements

H225	Highly flammable liquid and vapour.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H361d	Suspected of damaging the unborn child.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing mist or vapour.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER/doctor if you feel unwell.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use appropriate media to extinguish.

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information 62,75 % of the mixture consists of component(s) of unknown acute dermal toxicity. 82,42 % of the mixture consists of component(s) of unknown acute inhalation toxicity. 77,77 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Isobutyl acetate	10 - < 20	110-19-0 203-745-1	-	607-026-00-7	
Classification: **DSD:** F;R11, R66-67					C
CLP: -					C
Titanium dioxide	10 - < 20	13463-67-7 236-675-5	-	-	
Classification: **DSD:** -					
CLP: Carc. 2;H351					
Xylene	10 - < 20	1330-20-7 215-535-7	-	601-022-00-9	#
Classification: **DSD:** R10, Xn;R20/21, Xi;R38					C
CLP: Flam. Liq. 3;H226, Acute Tox. 4;H312, Skin Irrit. 2;H315, Acute Tox. 4;H332, Aquatic Chronic 2;H411					C
2-Butanone	3 - < 5	78-93-3 201-159-0	-	606-002-00-3	#
Classification: **DSD:** F;R11, Xi;R36, R66-67					
CLP: -					
Ethyl benzene	3 - < 5	100-41-4 202-849-4	-	601-023-00-4	#
Classification: **DSD:** F;R11, Xn;R20					
CLP: Flam. Liq. 2;H225, Asp. Tox. 1;H304, Acute Tox. 4;H332, Carc. 2;H351, STOT RE 2;H373, Aquatic Chronic 2;H411					
Toluene	3 - < 5	108-88-3 203-625-9	-	601-021-00-3	#
Classification: **DSD:** F;R11, Repr. Cat. 3;R63, Xn;R65-48/20, Xi;R38, R67					
CLP: Flam. Liq. 2;H225, Asp. Tox. 1;H304, Skin Irrit. 2;H315, STOT SE 3;H336, Repr. 2;H361d, STOT RE 2;H373, Aquatic Chronic 2;H411					
1,2-Dimethybenzene	< 0,2	95-47-6 202-422-2	-	601-022-00-9	#
Classification: **DSD:** R10, Xn;R20/21, Xi;R38					C
CLP: Flam. Liq. 3;H226, Acute Tox. 4;H312, Skin Irrit. 2;H315, Acute Tox. 4;H332, Aquatic Acute 1;H400, Aquatic Chronic 1;H410					C
Carbon Black	< 0,2	1333-86-4 215-609-9	-	-	
Classification: **DSD:** -					
CLP: -					
Cumene	< 0,2	98-82-8 202-704-5	-	601-024-00-X	#
Classification: **DSD:** R10, Xn;R65, Xi;R37, N;R51/53					C
CLP: -					C
Silicon dioxide	< 0,2	14808-60-7 238-878-4	-	-	
Classification: **DSD:** -					
CLP: -					

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Styrene, monomer	< 0,2	100-42-5 202-851-5	-	601-026-00-0	
Classification:	**DSD:**	R10, Xn;R20-48/20, Xi;R36/38-36/37/38			D
	CLP:	-			D

Other components below reportable levels 40 - < 50

List of abbreviations and symbols that may be used above

CLP: Regulation No. 1272/2008.
DSD: Directive 67/548/EEC.
M: M-factor
vPvB: very persistent and very bioaccumulative substance.
PBT: persistent, bioaccumulative and toxic substance.
#: This substance has been assigned Community workplace exposure limit(s).

Composition comments The full text for all R- and H-phrases is displayed in section 16.

SECTION 4: First aid measures

General information Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. 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. Show this safety data sheet to the doctor in attendance. 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. Oxygen or artificial respiration if needed. Call a POISON CENTRE or doctor/physician if you feel unwell.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical advice/attention if you feel unwell. 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 Rinse mouth. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed May cause drowsiness and dizziness. Headache. Nausea, vomiting. Direct contact with eyes may cause temporary irritation. Skin irritation. May cause redness and pain.

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 warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards Highly flammable liquid and vapour.

5.1. Extinguishing media

Suitable extinguishing media Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).

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. 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.

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 inhalation of vapours and spray mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8.

For emergency responders

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

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

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. 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 (e.g. cloth, fleece). 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. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid inhalation of vapours and spray mists. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	MAK	221 mg/m3	
		50 ppm	
	STEL	442 mg/m3	
		100 ppm	
2-Butanone (CAS 78-93-3)	MAK	295 mg/m3	
		100 ppm	
	STEL	590 mg/m3	
		200 ppm	
Cumene (CAS 98-82-8)	MAK	100 mg/m3	
		20 ppm	
	STEL	250 mg/m3	
		20 ppm	

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value	Form
Ethyl benzene (CAS 100-41-4)	Ceiling	880 mg/m3	
		200 ppm	
	MAK	440 mg/m3	
		100 ppm	
Isobutyl acetate (CAS 110-19-0)	Ceiling	480 mg/m3	
		100 ppm	
	MAK	480 mg/m3	
		100 ppm	
Silicon dioxide (CAS 14808-60-7)	MAK	0,15 mg/m3	Respirable dust.
Styrene, monomer (CAS 100-42-5)	MAK	85 mg/m3	
		20 ppm	
	STEL	340 mg/m3	
		80 ppm	
Talc (CAS 14807-96-6)	MAK	2 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	MAK	5 mg/m3	Respirable dust.
	STEL	10 mg/m3	Respirable dust.
Toluene (CAS 108-88-3)	MAK	190 mg/m3	
		50 ppm	
	STEL	380 mg/m3	
		100 ppm	
Xylene (CAS 1330-20-7)	MAK	221 mg/m3	
		50 ppm	
	STEL	442 mg/m3	
		100 ppm	

Belgium. Exposure Limit Values.

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	
Carbon Black (CAS 1333-86-4)	TWA	3,5 mg/m3	
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TWA	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	551 mg/m3	
		125 ppm	
	TWA	442 mg/m3	
		100 ppm	
Isobutyl acetate (CAS 110-19-0)	TWA	723 mg/m3	
		150 ppm	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable dust.
Styrene, monomer (CAS 100-42-5)	STEL	216 mg/m3	
		100 ppm	
	TWA	108 mg/m3	

Belgium. Exposure Limit Values.

Components	Type	Value	Form
		25 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
		100 ppm	
	TWA	77 mg/m3	
		20 ppm	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		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-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	STEL	885 mg/m3	
	TWA	590 mg/m3	
Calcium carbonate (CAS 1317-65-3)	TWA	1 fibers/cm3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
		10 mg/m3	
ceramic material (CAS 66402-68-4)	TWA	6 mg/m3	Inhalable fraction.
		3 mg/m3	Respirable fraction.
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TWA	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	545 mg/m3	
	TWA	435 mg/m3	
Kaolin (CAS 1332-58-7)	TWA	6 mg/m3	Inhalable fraction.
		3 mg/m3	Respirable fraction.
Silicon dioxide (CAS 14808-60-7)	TWA	0,07 mg/m3	Respirable fraction.
Styrene, monomer (CAS 100-42-5)	STEL	215 mg/m3	
	TWA	85 mg/m3	
Talc (CAS 14807-96-6)	TWA	1 fibers/cm3	Respirable fraction.
		6 mg/m3	Inhalable fraction.
		3 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	Respirable dust.
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
		100 ppm	
	TWA	192 mg/m3	
		50 ppm	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		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-Dimethybenzene (CAS 95-47-6)	MAC	221 mg/m3	
		50 ppm	
	STEL	442 mg/m3	
		100 ppm	

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

Components	Type	Value	Form
2-Butanone (CAS 78-93-3)	MAC	600 mg/m3	
		200 ppm	
	STEL	900 mg/m3	
		300 ppm	
Calcium carbonate (CAS 1317-65-3)	MAC	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Carbon Black (CAS 1333-86-4)	MAC	3,5 mg/m3	
	STEL	7 mg/m3	
Cumene (CAS 98-82-8)	MAC	100 mg/m3	
		20 ppm	
	STEL	250 mg/m3	
		50 ppm	
Ethyl benzene (CAS 100-41-4)	MAC	442 mg/m3	
		100 ppm	
	STEL	884 mg/m3	
		200 ppm	
Isobutyl acetate (CAS 110-19-0)	MAC	724 mg/m3	
		150 ppm	
	STEL	903 mg/m3	
		187 ppm	
Kaolin (CAS 1332-58-7)	MAC	2 mg/m3	Respirable dust.
Silicon dioxide (CAS 14808-60-7)	MAC	0,1 mg/m3	
Styrene, monomer (CAS 100-42-5)	MAC	430 mg/m3	
		100 ppm	
	STEL	1080 mg/m3	
		250 ppm	
Talc (CAS 14807-96-6)	MAC	1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	STEL	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Toluene (CAS 108-88-3)	MAC	192 mg/m3	
		50 ppm	
	STEL	384 mg/m3	
		100 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
Carbon Black (CAS 1333-86-4)	TWA	3,5 mg/m3
Cumene (CAS 98-82-8)	TWA	245 mg/m3
		50 ppm
Styrene, monomer (CAS 100-42-5)	TWA	210 mg/m3
		50 ppm
Talc (CAS 14807-96-6)	TWA	706 part/cm3
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	Ceiling	400 mg/m3	
	TWA	200 mg/m3	
2-Butanone (CAS 78-93-3)	Ceiling	900 mg/m3	
	TWA	600 mg/m3	

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	Dust.
Carbon Black (CAS 1333-86-4)	TWA	2 mg/m3	Dust.
Cumene (CAS 98-82-8)	Ceiling	250 mg/m3	
	TWA	100 mg/m3	
Ethyl benzene (CAS 100-41-4)	Ceiling	500 mg/m3	
	TWA	200 mg/m3	
Isobutyl acetate (CAS 110-19-0)	Ceiling	1200 mg/m3	
	TWA	950 mg/m3	
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable dust.
Styrene, monomer (CAS 100-42-5)	Ceiling	400 mg/m3	
	TWA	100 mg/m3	
Talc (CAS 14807-96-6)	TWA	10 mg/m3	Total dust.
		10 mg/m3	Respirable dust.
Toluene (CAS 108-88-3)	Ceiling	500 mg/m3	
	TWA	200 mg/m3	
Xylene (CAS 1330-20-7)	Ceiling	400 mg/m3	
	TWA	200 mg/m3	

Denmark. Exposure Limit Values

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	TLV	109 mg/m3	
		25 ppm	
2-Butanone (CAS 78-93-3)	TLV	145 mg/m3	
		50 ppm	
Carbon Black (CAS 1333-86-4)	TLV	3,5 mg/m3	
Cumene (CAS 98-82-8)	TLV	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	TLV	217 mg/m3	
		50 ppm	
Isobutyl acetate (CAS 110-19-0)	TLV	710 mg/m3	
		150 ppm	
Kaolin (CAS 1332-58-7)	TLV	2 mg/m3	Respirable.
Silicon dioxide (CAS 14808-60-7)	TLV	0,3 mg/m3	Total
		0,1 mg/m3	Respirable.
Styrene, monomer (CAS 100-42-5)	Ceiling	105 mg/m3	
		25 ppm	
Titanium dioxide (CAS 13463-67-7)	TLV	6 mg/m3	
Toluene (CAS 108-88-3)	TLV	94 mg/m3	
		25 ppm	
Xylene (CAS 1330-20-7)	TLV	109 mg/m3	
		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-Dimethybenzene (CAS 95-47-6)	STEL	450 mg/m3	
		100 ppm	
	TWA	200 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	

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

Components	Type	Value	Form
		200 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	5 mg/m3	Respirable dust.
		10 mg/m3	
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TWA	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
		200 ppm	
	TWA	442 mg/m3	
		100 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	700 mg/m3	
		150 ppm	
	TWA	500 mg/m3	
		100 ppm	
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable dust.
Styrene, monomer (CAS 100-42-5)	STEL	200 mg/m3	
		50 ppm	
	TWA	90 mg/m3	
		20 ppm	
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
		100 ppm	
	TWA	192 mg/m3	
		50 ppm	
Xylene (CAS 1330-20-7)	STEL	450 mg/m3	
		100 ppm	
	TWA	200 mg/m3	
		50 ppm	

Finland. Workplace Exposure Limits

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	440 mg/m3	
		110 ppm	
	TWA	220 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	STEL	300 mg/m3	
		100 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	Dust.
Carbon Black (CAS 1333-86-4)	STEL	7 mg/m3	
	TWA	3,5 mg/m3	
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TWA	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	880 mg/m3	
		200 ppm	
	TWA	220 mg/m3	
		50 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	960 mg/m3	
		200 ppm	
	TWA	720 mg/m3	
		150 ppm	

Finland. Workplace Exposure Limits

Components	Type	Value	Form
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable.
Silicon dioxide (CAS 14808-60-7)	TWA	0,05 mg/m3	Respirable.
Styrene, monomer (CAS 100-42-5)	STEL	430 mg/m3	
		100 ppm	
	TWA	86 mg/m3	
		20 ppm	
Talc (CAS 14807-96-6)	STEL	2 ppm	Inhalable dust.
		1 ppm	Respirable.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	Dust.
Toluene (CAS 108-88-3)	STEL	380 mg/m3	
		100 ppm	
	TWA	81 mg/m3	
		25 ppm	
Xylene (CAS 1330-20-7)	STEL	440 mg/m3	
		100 ppm	
	TWA	220 mg/m3	
		50 ppm	

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

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	VLE	442 mg/m3	
		100 ppm	
	VME	221 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	VLE	900 mg/m3	
		300 ppm	
	VME	600 mg/m3	
		200 ppm	
Calcium carbonate (CAS 1317-65-3)	VME	10 mg/m3	
Carbon Black (CAS 1333-86-4)	VME	3,5 mg/m3	
Cumene (CAS 98-82-8)	VLE	250 mg/m3	
		50 ppm	
	VME	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	VLE	442 mg/m3	
		100 ppm	
	VME	88,4 mg/m3	
		20 ppm	
Isobutyl acetate (CAS 110-19-0)	VLE	940 mg/m3	
		200 ppm	
	VME	710 mg/m3	
		150 ppm	
Kaolin (CAS 1332-58-7)	VME	10 mg/m3	
Silicon dioxide (CAS 14808-60-7)	VME	0,1 mg/m3	Respirable fraction.
Styrene, monomer (CAS 100-42-5)	VME	215 mg/m3	
		50 ppm	
Titanium dioxide (CAS 13463-67-7)	VME	10 mg/m3	
Toluene (CAS 108-88-3)	VLE	384 mg/m3	
		100 ppm	
	VME	76,8 mg/m3	
		20 ppm	
Xylene (CAS 1330-20-7)	VLE	442 mg/m3	
		100 ppm	

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

Components	Type	Value	Form
	VME	221 mg/m3	
		50 ppm	

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

Components	Type	Value
1,2-Dimethybenzene (CAS 95-47-6)	TWA	440 mg/m3
		100 ppm
2-Butanone (CAS 78-93-3)	TWA	600 mg/m3
		200 ppm
Cumene (CAS 98-82-8)	TWA	50 mg/m3
		10 ppm
Ethyl benzene (CAS 100-41-4)	TWA	88 mg/m3
		20 ppm
Isobutyl acetate (CAS 110-19-0)	TWA	480 mg/m3
		100 ppm
Styrene, monomer (CAS 100-42-5)	TWA	86 mg/m3
		20 ppm
Toluene (CAS 108-88-3)	TWA	190 mg/m3
		50 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-Dimethybenzene (CAS 95-47-6)	AGW	440 mg/m3	
		100 ppm	
2-Butanone (CAS 78-93-3)	AGW	600 mg/m3	
		200 ppm	
Cumene (CAS 98-82-8)	AGW	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	AGW	88 mg/m3	
		20 ppm	
Isobutyl acetate (CAS 110-19-0)	AGW	300 mg/m3	
		62 ppm	
Styrene, monomer (CAS 100-42-5)	AGW	86 mg/m3	
		20 ppm	
Talc (CAS 14807-96-6)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.
Toluene (CAS 108-88-3)	AGW	190 mg/m3	
		50 ppm	
Xylene (CAS 1330-20-7)	AGW	440 mg/m3	
		100 ppm	

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

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	650 mg/m3	
		150 ppm	
	TWA	435 mg/m3	
		100 ppm	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	

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

Components	Type	Value	Form
		200 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Inhalable
Carbon Black (CAS 1333-86-4)	STEL	7 mg/m3	
	TWA	3,5 mg/m3	
Cumene (CAS 98-82-8)	STEL	370 mg/m3	
		75 ppm	
	TWA	245 mg/m3	
		50 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	545 mg/m3	
		125 ppm	
	TWA	435 mg/m3	
		100 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	950 mg/m3	
		200 ppm	
	TWA	950 mg/m3	
		200 ppm	
Styrene, monomer (CAS 100-42-5)	STEL	1050 mg/m3	
		250 ppm	
	TWA	425 mg/m3	
		100 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable.
		10 mg/m3	Inhalable
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Inhalable
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
		100 ppm	
	TWA	192 mg/m3	
		50 ppm	
Xylene (CAS 1330-20-7)	STEL	650 mg/m3	
		150 ppm	
	TWA	435 mg/m3	
		100 ppm	

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
	TWA	221 mg/m3	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
	TWA	600 mg/m3	
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
	TWA	100 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
	TWA	442 mg/m3	
Silicon dioxide (CAS 14808-60-7)	TWA	0,15 mg/m3	Respirable.
Styrene, monomer (CAS 100-42-5)	STEL	50 mg/m3	
	TWA	50 mg/m3	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable.
Toluene (CAS 108-88-3)	STEL	380 mg/m3	
	TWA	190 mg/m3	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	
	TWA	221 mg/m3	

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

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
		100 ppm	
	TWA	109 mg/m3	
		25 ppm	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	145 mg/m3	
		50 ppm	
Carbon Black (CAS 1333-86-4)	TWA	3,5 mg/m3	
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TWA	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
		200 ppm	
	TWA	200 mg/m3	
		50 ppm	
Isobutyl acetate (CAS 110-19-0)	TWA	700 mg/m3	
		150 ppm	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable dust.
Silicon dioxide (CAS 14808-60-7)	TWA	0,3 mg/m3	Total dust.
		0,1 mg/m3	Respirable dust.
Styrene, monomer (CAS 100-42-5)	STEL	105 mg/m3	
		25 ppm	
Titanium dioxide (CAS 13463-67-7)	TWA	6 mg/m3	
Toluene (CAS 108-88-3)	STEL	188 mg/m3	
		50 ppm	
	TWA	94 mg/m3	
		25 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-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Carbon Black (CAS 1333-86-4)	STEL	7 mg/m3	
	TWA	3,5 mg/m3	
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TWA	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
		200 ppm	
	TWA	442 mg/m3	
		100 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	875 mg/m3	
		187 ppm	
	TWA	700 mg/m3	
		150 ppm	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable dust.
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable dust.
Styrene, monomer (CAS 100-42-5)	STEL	170 mg/m3	
		40 ppm	
	TWA	85 mg/m3	
		20 ppm	
Talc (CAS 14807-96-6)	TWA	10 mg/m3	Total inhalable dust.
		0,8 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
		100 ppm	
	TWA	192 mg/m3	
		50 ppm	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	

Italy. Occupational Exposure Limits

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Carbon Black (CAS 1333-86-4)	TWA	3 mg/m3	Inhalable fraction.
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TWA	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
		200 ppm	
	TWA	442 mg/m3	
		100 ppm	
Isobutyl acetate (CAS 110-19-0)	TWA	150 ppm	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Silicon dioxide (CAS 14808-60-7)	TWA	0,025 mg/m3	Respirable fraction.
Styrene, monomer (CAS 100-42-5)	STEL	40 ppm	
	TWA	20 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Toluene (CAS 108-88-3)	TWA	192 mg/m3	

Italy. Occupational Exposure Limits

Components	Type	Value	Form
		50 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-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3
		100 ppm
	TWA	221 mg/m3
		50 ppm
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	200 mg/m3
		67 ppm
Cumene (CAS 98-82-8)	STEL	250 mg/m3
		50 ppm
	TWA	100 mg/m3
		20 ppm
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3
		200 ppm
	TWA	442 mg/m3
		100 ppm
Styrene, monomer (CAS 100-42-5)	STEL	30 mg/m3
	TWA	10 mg/m3
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3
Toluene (CAS 108-88-3)	STEL	150 mg/m3
		40 ppm
	TWA	50 mg/m3
		14 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

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	450 mg/m3	
		100 ppm	
	TWA	200 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Cumene (CAS 98-82-8)	STEL	170 mg/m3	
		35 ppm	
	TWA	120 mg/m3	
		25 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
		200 ppm	
	TWA	442 mg/m3	
		100 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	700 mg/m3	
		150 ppm	
	TWA	500 mg/m3	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value	Form
		100 ppm	
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable fraction.
Styrene, monomer (CAS 100-42-5)	STEL	200 mg/m3	
		50 ppm	
	TWA	90 mg/m3	
		20 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Inhalable fraction.
		1 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
		100 ppm	
	TWA	192 mg/m3	
		50 ppm	
Xylene (CAS 1330-20-7)	STEL	450 mg/m3	
		100 ppm	
	TWA	200 mg/m3	
		50 ppm	

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

Components	Type	Value
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3
		100 ppm
	TWA	221 mg/m3
		50 ppm
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3
		200 ppm
Cumene (CAS 98-82-8)	STEL	250 mg/m3
		50 ppm
	TWA	100 mg/m3
		20 ppm
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3
		200 ppm
	TWA	442 mg/m3
		100 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m3
		100 ppm
	TWA	192 mg/m3
		50 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m3
		100 ppm
	TWA	221 mg/m3
		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-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3
		100 ppm
	TWA	221 mg/m3
		50 ppm
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3
		200 ppm
Cumene (CAS 98-82-8)	STEL	250 mg/m3
		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
	TWA	100 mg/m3
		20 ppm
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3
		200 ppm
	TWA	442 mg/m3
		100 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m3
		100 ppm
	TWA	192 mg/m3
		50 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m3
		100 ppm
	TWA	221 mg/m3
		50 ppm

Netherlands. OELs (binding)

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
	TWA	210 mg/m3	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
	TWA	590 mg/m3	
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
	TWA	100 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	430 mg/m3	
	TWA	215 mg/m3	
Silicon dioxide (CAS 14808-60-7)	TWA	0,075 mg/m3	Respirable dust.
Talc (CAS 14807-96-6)	TWA	0,25 mg/m3	Respirable dust.
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
	TWA	150 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-Dimethybenzene (CAS 95-47-6)	TLV	108 mg/m3	
		25 ppm	
2-Butanone (CAS 78-93-3)	TLV	220 mg/m3	
		75 ppm	
Carbon Black (CAS 1333-86-4)	TLV	3,5 mg/m3	
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TLV	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	TLV	20 mg/m3	
		5 ppm	
Isobutyl acetate (CAS 110-19-0)	TLV	355 mg/m3	
		75 ppm	
Silicon dioxide (CAS 14808-60-7)	TLV	0,3 mg/m3	Total dust.
		0,1 mg/m3	Respirable dust.
Styrene, monomer (CAS 100-42-5)	TLV	105 mg/m3	
		25 ppm	
Talc (CAS 14807-96-6)	TLV	6 mg/m3	Total dust.
		2 mg/m3	Respirable dust.

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
Titanium dioxide (CAS 13463-67-7)	TLV	5 mg/m3	
Toluene (CAS 108-88-3)	TLV	94 mg/m3	
		25 ppm	
Xylene (CAS 1330-20-7)	TLV	108 mg/m3	
		25 ppm	

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	TWA	100 mg/m3	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
	TWA	450 mg/m3	
Carbon Black (CAS 1333-86-4)	TWA	4 mg/m3	Total dust.
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
	TWA	100 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	400 mg/m3	
	TWA	200 mg/m3	
Isobutyl acetate (CAS 110-19-0)	STEL	400 mg/m3	
	TWA	200 mg/m3	
Kaolin (CAS 1332-58-7)	TWA	10 mg/m3	Total dust.
Silicon dioxide (CAS 14808-60-7)	TWA	2 mg/m3	Total dust.
		0,3 mg/m3	Respirable dust.
Styrene, monomer (CAS 100-42-5)	STEL	200 mg/m3	
	TWA	50 mg/m3	
Talc (CAS 14807-96-6)	TWA	4 mg/m3	Total dust.
		1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	STEL	30 mg/m3	
	TWA	10 mg/m3	Total dust.
Toluene (CAS 108-88-3)	STEL	200 mg/m3	
	TWA	100 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
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3
		100 ppm
	TWA	221 mg/m3
		50 ppm
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3
		200 ppm
Cumene (CAS 98-82-8)	STEL	250 mg/m3
		50 ppm
	TWA	100 mg/m3
		20 ppm
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3
		200 ppm
	TWA	442 mg/m3
		100 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m3
		100 ppm
	TWA	192 mg/m3
		50 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m3

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

Components	Type	Value
		100 ppm
	TWA	221 mg/m3
		50 ppm

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

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	150 ppm	
	TWA	100 ppm	
2-Butanone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 ppm	
Carbon Black (CAS 1333-86-4)	TWA	3,5 mg/m3	Fume.
Cumene (CAS 98-82-8)	TWA	50 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	125 ppm	
	TWA	100 ppm	
Isobutyl acetate (CAS 110-19-0)	TWA	150 ppm	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Silicon dioxide (CAS 14808-60-7)	TWA	0,025 mg/m3	Respirable fraction.
Styrene, monomer (CAS 100-42-5)	STEL	40 ppm	
	TWA	20 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Toluene (CAS 108-88-3)	TWA	50 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	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	Inhalable fraction.
Cumene (CAS 98-82-8)	STEL	150 mg/m3	
		30 ppm	
	TWA	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
		200 ppm	
	TWA	442 mg/m3	
		100 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	950 mg/m3	
		200 ppm	
	TWA	715 mg/m3	
		150 ppm	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Inhalable fraction.
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable fraction.
Styrene, monomer (CAS 100-42-5)	STEL	150 mg/m3	
		35 ppm	

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

Components	Type	Value	Form
	TWA	50 mg/m3	
		12 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Inhalable fraction.
Titanium dioxide (CAS 13463-67-7)	STEL	15 mg/m3	
	TWA	10 mg/m3	
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
		100 ppm	
	TWA	192 mg/m3	
		50 ppm	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	

Romania. OELs/CMRs. Protection of workers from exposure to carcinogen and mutagen agents. Hotarâre Nr. 1093 din 16 august 2006, Annex 3

Components	Type	Value	Form
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable dust.

Slovakia. OELs for carcinogens and mutagens. Regulation No. 46/2002 on carcinogenic and mutagenic substances

Components	Type	Value	Form
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable fraction.

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

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	
Carbon Black (CAS 1333-86-4)	TWA	2 mg/m3	
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	
	TWA	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
		200 ppm	
	TWA	442 mg/m3	
		100 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	700 mg/m3	
		150 ppm	
	TWA	500 mg/m3	
		100 ppm	
Styrene, monomer (CAS 100-42-5)	STEL	200 mg/m3	
		50 ppm	
	TWA	90 mg/m3	
		20 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.
		2 mg/m3	Respirable fraction.
		10 mg/m3	Total
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	

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

Components	Type	Value	Form
Toluene (CAS 108-88-3)	STEL	384 mg/m3 100 ppm	
	TWA	192 mg/m3 50 ppm	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3 100 ppm	
	TWA	221 mg/m3 50 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-Dimethybenzene (CAS 95-47-6)	TWA	221 mg/m3 50 ppm	
2-Butanone (CAS 78-93-3)	TWA	600 mg/m3 200 ppm	
Cumene (CAS 98-82-8)	TWA	100 mg/m3 20 ppm	
Ethyl benzene (CAS 100-41-4)	TWA	442 mg/m3 100 ppm	
Isobutyl acetate (CAS 110-19-0)	TWA	480 mg/m3 100 ppm	
Silicon dioxide (CAS 14808-60-7)	TWA	0,15 mg/m3	Respirable fraction.
Styrene, monomer (CAS 100-42-5)	TWA	86 mg/m3 20 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.
Toluene (CAS 108-88-3)	TWA	192 mg/m3 50 ppm	
Xylene (CAS 1330-20-7)	TWA	221 mg/m3 50 ppm	

Spain. Occupational Exposure Limits

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3 100 ppm	
	TWA	221 mg/m3 50 ppm	
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3 300 ppm	
	TWA	600 mg/m3 200 ppm	
Carbon Black (CAS 1333-86-4)	TWA	3,5 mg/m3	
Cumene (CAS 98-82-8)	STEL	250 mg/m3 50 ppm	
	TWA	100 mg/m3 20 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3 200 ppm	
	TWA	441 mg/m3 100 ppm	
Isobutyl acetate (CAS 110-19-0)	TWA	724 mg/m3 150 ppm	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable fraction.

Spain. Occupational Exposure Limits

Components	Type	Value	Form
Styrene, monomer (CAS 100-42-5)	STEL	172 mg/m3	
		40 ppm	
	TWA	86 mg/m3	
		20 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
		100 ppm	
	TWA	192 mg/m3	
		50 ppm	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	STEL	300 mg/m3	
		100 ppm	
	TWA	150 mg/m3	
		50 ppm	
Cumene (CAS 98-82-8)	STEL	170 mg/m3	
		35 ppm	
	TWA	120 mg/m3	
		25 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	450 mg/m3	
		100 ppm	
	TWA	200 mg/m3	
		50 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	700 mg/m3	
		150 ppm	
	TWA	500 mg/m3	
		100 ppm	
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable dust.
Styrene, monomer (CAS 100-42-5)	STEL	86 mg/m3	
		20 ppm	
	TWA	43 mg/m3	
		10 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Total dust.
		1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	Total dust.
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
		100 ppm	
	TWA	192 mg/m3	
		50 ppm	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	870 mg/m3	
		200 ppm	
	TWA	435 mg/m3	
		100 ppm	
2-Butanone (CAS 78-93-3)	STEL	590 mg/m3	
		200 ppm	
	TWA	590 mg/m3	
		200 ppm	
Cumene (CAS 98-82-8)	STEL	400 mg/m3	
		80 ppm	
	TWA	100 mg/m3	
		20 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	220 mg/m3	
		50 ppm	
	TWA	220 mg/m3	
		50 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	960 mg/m3	
		200 ppm	
	TWA	480 mg/m3	
		100 ppm	
Kaolin (CAS 1332-58-7)	TWA	3 mg/m3	Respirable dust.
Silicon dioxide (CAS 14808-60-7)	TWA	0,15 mg/m3	Respirable dust.
Styrene, monomer (CAS 100-42-5)	STEL	170 mg/m3	
		40 ppm	
	TWA	85 mg/m3	
		20 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	3 mg/m3	Respirable dust.
Toluene (CAS 108-88-3)	STEL	760 mg/m3	
		200 ppm	
	TWA	190 mg/m3	
		50 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-Dimethybenzene (CAS 95-47-6)	STEL	441 mg/m3	
		100 ppm	
	TWA	220 mg/m3	
		50 ppm	
2-Butanone (CAS 78-93-3)	STEL	899 mg/m3	
		300 ppm	
	TWA	600 mg/m3	
		200 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	4 mg/m3	Respirable.
		4 mg/m3	Respirable dust.
		10 mg/m3	Inhalable dust.
		10 mg/m3	Inhalable
Carbon Black (CAS 1333-86-4)	STEL	7 mg/m3	
	TWA	3,5 mg/m3	
Cumene (CAS 98-82-8)	STEL	250 mg/m3	
		50 ppm	

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
	TWA	125 mg/m3	
		25 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	552 mg/m3	
		125 ppm	
	TWA	441 mg/m3	
		100 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	903 mg/m3	
		187 ppm	
	TWA	724 mg/m3	
		150 ppm	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable dust.
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable.
Styrene, monomer (CAS 100-42-5)	STEL	1080 mg/m3	
		250 ppm	
	TWA	430 mg/m3	
		100 ppm	
Talc (CAS 14807-96-6)	TWA	1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	4 mg/m3	Respirable.
		10 mg/m3	Inhalable
Toluene (CAS 108-88-3)	STEL	384 mg/m3	
		100 ppm	
	TWA	191 mg/m3	
		50 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

Components	Type	Value
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3
		100 ppm
	TWA	221 mg/m3
		50 ppm
2-Butanone (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3
		200 ppm
Cumene (CAS 98-82-8)	STEL	250 mg/m3
		50 ppm
	TWA	100 mg/m3
		20 ppm
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3
		200 ppm
	TWA	442 mg/m3
		100 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m3
		100 ppm
	TWA	192 mg/m3
		50 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m3
		100 ppm
	TWA	221 mg/m3
		50 ppm

Biological limit values

Czech Republic. Limit Values for Indictators 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
1,2-Dimethybenzene (CAS 95-47-6)	820 µmol/mmol	Methylhippuric acids	Creatinine in urine	*
	1400 mg/g	Methylhippuric acids	Creatinine in urine	*
Ethyl benzene (CAS 100-41-4)	1100 µmol/mmol	Mandelic acid	Creatinine in urine	*
	1500 mg/g	Mandelic acid	Creatinine in urine	*
Styrene, monomer (CAS 100-42-5)	300 µmol/mmol	Mandelic acid	Creatinine in urine	*
	400 mg/g	Mandelic acid	Creatinine in urine	*
Toluene (CAS 108-88-3)	1000 µmol/mmol	Hippuric acid	Creatinine in urine	*
	1600 mg/g	Hippuric acid	Creatinine in urine	*
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
1,2-Dimethybenzene (CAS 95-47-6)	5 mmol/l	Methylhippuric acids	Urine	*
Ethyl benzene (CAS 100-41-4)	5,2 mmol/l	Mandelic acid	Urine	*
Styrene, monomer (CAS 100-42-5)	1,2 mmol/l	MAPGA (mandelic acid plus phenylglyoxylic acid)	Urine	*
Toluene (CAS 108-88-3)	500 nmol/l	Toluene concentration	Blood	*
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
1,2-Dimethybenzene (CAS 95-47-6)	1500 mg/g	Acides méthylhippuriques	Creatinine in urine	*
2-Butanone (CAS 78-93-3)	2 mg/l	Méthyléthylcétone	Urine	*
Ethyl benzene (CAS 100-41-4)	1500 mg/g	Acide mandélique	Creatinine in urine	*
Styrene, monomer (CAS 100-42-5)	800 mg/g	Acide mandélique	Creatinine in urine	*
	300 mg/g	Acide mandélique	Creatinine in urine	*
	0,55 mg/l	Styréne	Venous blood	*
	0,02 mg/l	Styréne	Venous blood	*
Toluene (CAS 108-88-3)	2500 mg/g	Acide hippurique	Creatinine in urine	*
	2500 mg/g	Acide hippurique	Creatinine in urine	*
	1 mg/l	Toluène	Venous blood	*
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-Dimethybenzene (CAS 95-47-6)	2000 mg/l	Methylhippur-(Tolur-) säure (alle Isomere)	Urine	*
	1,5 mg/l	Xylol	Blood	*
2-Butanone (CAS 78-93-3)	5 mg/l	2-Butanon	Urine	*
Ethyl benzene (CAS 100-41-4)	300 mg/l	Mandelsäure plus Phenylglyoxylsäure	Urine	*
Styrene, monomer (CAS 100-42-5)	600 mg/g	Mandelsäure plus Phenylglyoxylsäure	Creatinine in urine	*
Toluene (CAS 108-88-3)	600 µg/l	Toluol	Blood	*
	1,5 mg/l	o-Kresol (nach Hydrolyse)	Urine	*
Xylene (CAS 1330-20-7)	2000 mg/l	Methylhippur-(Tolur-) säure (alle Isomere)	Urine	*
	1,5 mg/l	Xylol	Blood	*

* - 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
1,2-Dimethybenzene (CAS 95-47-6)	1500 mg/g	methyl hippuric acids	Creatinine in urine	*
	860 µmol/mmol	methyl hippuric acids	Creatinine in urine	*
Ethyl benzene (CAS 100-41-4)	1500 mg/g	mandelic acid	Creatinine in urine	*
	1110 µmol/mmol	mandelic acid	Creatinine in urine	*
Styrene, monomer (CAS 100-42-5)	1000 mg/g	mandelic acid	Creatinine in urine	*
	740 µmol/mmol	mandelic acid	Creatinine in urine	*
Toluene (CAS 108-88-3)	1 mg/g	o-crezol	Creatinine in urine	*
	1,05 µmol/mmol	o-crezol	Creatinine in urine	*
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
1,2-Dimethybenzene (CAS 95-47-6)	1334 mg/g	Methylhippuric acids	Creatinine in urine	*
	2000 mg/l	Methylhippuric acids	Urine	*
	1,5 mg/l	Xylene	Blood	*
Ethyl benzene (CAS 100-41-4)	8,03 mg/g	2-ethylphenol	Creatinine in urine	*
	12 mg/l	2-ethylphenol	Urine	*
Styrene, monomer (CAS 100-42-5)	600 mg/g	Mandelic acid plus phenylglyoxylic acid	Creatinine in urine	*
	901 mg/l	Mandelic acid plus phenylglyoxylic acid	Urine	*
Toluene (CAS 108-88-3)	600 µg/l	Toluene	Blood	*

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
	1600 mg/g	Hippuric acid	Creatinine in urine	*
	1,03 mg/g	o-cresol (Phenol, 2-methyl-)	Creatinine in urine	*
	2401 mg/l	Hippuric acid	Urine	*
	1,5 mg/l	o-cresol (Phenol, 2-methyl-)	Urine	*
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
1,2-Dimethybenzene (CAS 95-47-6)	1 g/g	Ácidos metilhipúricos	Creatinine in urine	*
2-Butanone (CAS 78-93-3)	2 mg/l	Metiletilcetona	Urine	*
Ethyl benzene (CAS 100-41-4)	700 mg/g	Suma del acido mandélico y el ácido fenilglioxílico	Creatinine in urine	*
Styrene, monomer (CAS 100-42-5)	400 mg/g	Ácido mandélico más ácido fenilglioxílico	Creatinine in urine	*
	0,2 mg/l	Estireno	Venous blood	*
Toluene (CAS 108-88-3)	1,6 g/g	Ácido hipúrico	Creatinine in urine	*
	0,5 mg/l	o-cresol (Phenol, 2-methyl-)	Urine	*
	0,05 mg/l	Tolueno	Blood	*
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
1,2-Dimethybenzene (CAS 95-47-6)	1,5 g/g	Methyl-Hippursäure	Creatinine in urine	*
	1,5 mg/l	Xylol	Blood	*
2-Butanone (CAS 78-93-3)	5 mg/l	2-Butanon (MEK)	Urine	*
Cumene (CAS 98-82-8)	50 mg/g	2-Phenyl-2-propanol	Creatinine in urine	*
Ethyl benzene (CAS 100-41-4)	800 mg/l	Mandelsäure plus Phenylglyoxylsäure	Urine	*
Styrene, monomer (CAS 100-42-5)	400 mg/g	Mandelsäure	Creatinine in urine	*
Toluene (CAS 108-88-3)	600 µg/l	Toluol	Blood	*
	2 g/g	Hippursäure	Creatinine in urine	*
	0,5 mg/l	o-Kresol	Urine	*
Xylene (CAS 1330-20-7)	1,5 g/g	Methyl-Hippursäure	Creatinine in urine	*
	1,5 mg/l	Xylol	Blood	*

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

UK. EH40 Biological Monitoring Guidance Values (BMGVs)

Components	Value	Determinant	Specimen	Sampling time
1,2-Dimethybenzene (CAS 95-47-6)	650 mmol/mol	Methyl hippuric acid	Creatinine in urine	*
2-Butanone (CAS 78-93-3)	70 umol/l	Butan-2-one	Urine	*
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 level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines

EU Exposure Limit Values: Skin designation

1,2-Dimethybenzene (CAS 95-47-6)	Can be absorbed through the skin.
Cumene (CAS 98-82-8)	Can be absorbed through the skin.
Ethyl benzene (CAS 100-41-4)	Can be absorbed through the skin.
Toluene (CAS 108-88-3)	Can be absorbed through the skin.
Xylene (CAS 1330-20-7)	Can be absorbed through the skin.

8.2. Exposure controls

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) 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. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

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).

Skin protection

- Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

- Other Wear appropriate chemical resistant clothing.

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.

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Colour Grey Opaque.

Odour Solvent.

Odour threshold Not available.

pH Not available.

Melting point/freezing point -98,8 °C (-145,84 °F) estimated

Initial boiling point and boiling range 116,5 °C (241,7 °F) estimated

Flash point 17,8 °C (64,0 °F) estimated

Evaporation rate Not available.

Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	2,4 % estimated
Flammability limit - upper (%)	10,5 % estimated
Vapour pressure	1210,3 hPa estimated
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Solubility (other)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	423 °C (793,4 °F) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
9.2. Other information	
Density	11,19 lb/gal
Percent volatile	39,82 %
Specific gravity	1,34
VOC	4,4 lb/gal Material 4,4 lb/gal Regulatory 530 g/l Material 530 g/l Regulatory

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	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
10.5. Incompatible materials	Strong acids. Strong oxidising agents. Nitrates. Halogens. Fluorine.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Inhalation	Harmful if inhaled. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Harmful in contact with skin. Causes skin irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
Symptoms	Headache. May cause drowsiness and dizziness. Nausea, vomiting. Skin irritation. May cause redness and pain.

11.1. Information on toxicological effects

Acute toxicity	Harmful if inhaled. Harmful in contact with skin. Narcotic effects.

Components	Species	Test results
1,2-Dimethybenzene (CAS 95-47-6)		
Acute		
Dermal		
LD50	Rabbit	> 43 g/kg

Components	Species	Test results
Inhalation		
LC50	Mouse	4600 ppm, 6 Hours
	Rat	6350 ppm, 4 Hours
Oral		
LD50	Mouse	1590 mg/kg
	Rat	4300 mg/kg
2-Butanone (CAS 78-93-3)		
Acute		
Dermal		
LD50	Rabbit	> 8000 mg/kg
Inhalation		
LC50	Mouse	11000 ppm, 45 Minutes
	Rat	11700 ppm, 4 Hours
Oral		
LD50	Mouse	670 mg/kg
	Rat	2300 - 3500 mg/kg
Carbon Black (CAS 1333-86-4)		
Acute		
Oral		
LD50	Rat	> 8000 mg/kg
Cumene (CAS 98-82-8)		
Acute		
Inhalation		
LC50	Mouse	2000 ppm, 7 Hours
		24,7 mg/l, 2 Hours
	Rat	8000 ppm, 4 Hours
Oral		
LD50	Rat	1400 mg/kg
Ethyl benzene (CAS 100-41-4)		
Acute		
Dermal		
LD50	Rabbit	17800 mg/kg
Oral		
LD50	Rat	3500 mg/kg
Isobutyl acetate (CAS 110-19-0)		
Acute		
Oral		
LD50	Rabbit	4,8 g/kg
Styrene, monomer (CAS 100-42-5)		
Acute		
Inhalation		
LC50	Mouse	4940 ppm, 2 Hours
	Rat	2770 ppm, 4 Hours
		24 mg/l, 4 Hours
Oral		
LD50	Mouse	316 mg/kg
	Rat	1 g/kg
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	12124 mg/kg
		14,1 ml/kg

Components	Species	Test results
Inhalation		
LC50	Mouse	5320 ppm, 8 Hours
		400 ppm, 24 Hours
	Rat	26700 ppm, 1 Hours
		12200 ppm, 2 Hours
		8000 ppm, 4 Hours
Oral		
LD50	Rat	2,6 g/kg
Xylene (CAS 1330-20-7)		
Acute		
Dermal		
LD50	Rabbit	> 43 g/kg
Inhalation		
LC50	Mouse	3907 mg/l, 6 Hours
	Rat	6350 mg/l, 4 Hours
Oral		
LD50	Mouse	1590 mg/kg
	Rat	3523 - 8600 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary 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 Due to partial or complete lack of data the classification is not possible.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

1,2-Dimethybenzene (CAS 95-47-6)	3 Not classifiable as to carcinogenicity to humans.
Carbon Black (CAS 1333-86-4)	2B Possibly carcinogenic to humans.
Cumene (CAS 98-82-8)	2B Possibly carcinogenic to humans.
Ethyl benzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Silicon dioxide (CAS 14808-60-7)	1 Carcinogenic to humans.
Styrene, monomer (CAS 100-42-5)	2B Possibly carcinogenic to humans.
Titanium dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
Xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure Due to partial or complete lack of data the classification is not possible.

Aspiration hazard Due to partial or complete lack of data the classification is not possible.

Mixture versus substance information No information available.

Other information Not available.

SECTION 12: Ecological information

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

Components		Species	Test results
1,2-Dimethybenzene (CAS 95-47-6)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	0,78 - 2,51 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	5,59 - 11,6 mg/l, 96 hours

Components		Species	Test results
2-Butanone (CAS 78-93-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	4025 - 6440 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	> 400 mg/l, 96 hours
Cumene (CAS 98-82-8)			
Aquatic			
Crustacea	EC50	Brine shrimp (Artemia sp.)	3,55 - 11,29 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2,7 mg/l, 96 hours
Ethyl benzene (CAS 100-41-4)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	1,37 - 4,4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	7,5 - 11 mg/l, 96 hours
Styrene, monomer (CAS 100-42-5)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	3,3 - 7,4 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	5,1 - 16 mg/l, 96 hours
Titanium dioxide (CAS 13463-67-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	LC50	Mummichog (Fundulus heteroclitus)	> 1000 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5,46 - 9,83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8,11 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	7,711 - 9,591 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

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)

1,2-Dimethybenzene	3,12
2-Butanone	0,29
Cumene	3,66
Ethyl benzene	3,15
Isobutyl acetate	1,78
Styrene, monomer	2,95
Toluene	2,73
Xylene	3,12 - 3,2

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment Not available.

12.6. Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

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 (see: Disposal instructions).
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	UN1263
14.2. UN proper shipping name	Paint, Paint Related Material
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Hazard No. (ADR)	33
Tunnel restriction code	D/E
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN1263
14.2. UN proper shipping name	Paint, Paint Related Material
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN1263
14.2. UN proper shipping name	Paint, Paint Related Material
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN1263
14.2. UN proper shipping name	Paint, Paint Related Material
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
14.4. Packing group	II
14.5. Environmental hazards	No.
ERG Code	3H
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

14.1. UN number	UN1263
14.2. UN proper shipping name	Paint, Paint Related Material
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
14.4. Packing group	II
14.5. Environmental hazards	
Marine pollutant	No.
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 established.

ADN; ADR; IATA; IMDG; RID

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, as amended

Not listed.

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

Not listed.

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

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 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

Not listed.

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 authorization, 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

2-Butanone (CAS 78-93-3)
Ethyl benzene (CAS 100-41-4)

Isobutyl acetate (CAS 110-19-0)
Toluene (CAS 108-88-3)

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

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended

Styrene, monomer (CAS 100-42-5)
Toluene (CAS 108-88-3)

Other EU regulations

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

1,2-Dimethybenzene (CAS 95-47-6)
2-Butanone (CAS 78-93-3)
Cumene (CAS 98-82-8)
Ethyl benzene (CAS 100-41-4)
Isobutyl acetate (CAS 110-19-0)
Styrene, monomer (CAS 100-42-5)
Toluene (CAS 108-88-3)
Xylene (CAS 1330-20-7)

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended

1,2-Dimethybenzene (CAS 95-47-6)
2-Butanone (CAS 78-93-3)
Cumene (CAS 98-82-8)
Ethyl benzene (CAS 100-41-4)
Isobutyl acetate (CAS 110-19-0)
Styrene, monomer (CAS 100-42-5)
Toluene (CAS 108-88-3)
Xylene (CAS 1330-20-7)

Directive 94/33/EC on the protection of young people at work, as amended

Ethyl benzene (CAS 100-41-4)
Styrene, monomer (CAS 100-42-5)
Toluene (CAS 108-88-3)

Other regulations	The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.
National regulations	Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work. Follow national regulation for work with chemical agents.
15.2. Chemical safety assessment	No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations	Not available.
References	Not available.
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 statements or R-phrases and H-statements under Sections 2 to 15	R10 Flammable. R11 Highly flammable. R20 Harmful by inhalation. R20/21 Harmful by inhalation and in contact with skin. R36 Irritating to eyes. R36/37/38 Irritating to eyes, respiratory system and skin. R36/38 Irritating to eyes and skin. R37 Irritating to respiratory system. R38 Irritating to skin. R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation. R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R63 Possible risk of harm to the unborn child. R65 Harmful: may cause lung damage if swallowed. R66 Repeated exposure may cause skin dryness or cracking. R67 Vapours may cause drowsiness and dizziness.

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
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.

Revision information None.

Training information Follow training instructions when handling this material.

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