

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

1.1. Product identifier

Trade name or designation of the mixture	DIRECT-TO-METAL PRIMER
Registration number	-
Synonyms	None.
Product code	MP-200-G
Issue date	27-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
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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 R10, Carc. Cat. 2;R45, Muta. Cat. 2;R46, N;R51/53

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 3	H226 - Flammable liquid and vapour.
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Health hazards

Germ cell mutagenicity	Category 1B	H340 - May cause genetic defects.
Carcinogenicity	Category 1B	H350 - May cause cancer.

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

Physical hazards	Flammable.
Health hazards	May cause cancer. May cause heritable genetic damage. Occupational exposure to the substance or mixture may cause adverse health effects.
Environmental hazards	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards	Prolonged exposure may cause chronic effects.
Main symptoms	Direct contact with eyes may cause temporary irritation.

2.2. Label elements

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

Contains: Ethyl benzene, light aromatic solvent naphtha, Titanium dioxide

Hazard pictograms



Signal word

Danger

Hazard statements

H226 Flammable liquid and vapour.
H340 May cause genetic defects.
H350 May cause cancer.
H411 Toxic 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.
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.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P370 + P378 In case of fire: Use appropriate media to extinguish.
P391 Collect spillage.

Storage

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 84,6 % 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
barium sulfate	3 - < 5	7727-43-7 231-784-4	-	-	
Classification:	DSD: R52/53 CLP: Aquatic Chronic 3;H412				
n-Butyl acetate	3 - < 5	123-86-4 204-658-1	-	607-025-00-1	
Classification:	DSD: R10, R66-67 CLP: Flam. Liq. 3;H226, STOT SE 3;H336, Aquatic Chronic 3;H412				
Titanium dioxide	3 - < 5	13463-67-7 236-675-5	-	-	
Classification:	DSD: - CLP: Carc. 2;H351				

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
acetone	1 - < 3	67-64-1 200-662-2	-	606-001-00-8	#
Classification:	DSD: F;R11, Xi;R36, R66-67				
	CLP: -				
isobutyl acetate	1 - < 3	110-19-0 203-745-1	-	607-026-00-7	
Classification:	DSD: F;R11, R66-67				C
	CLP: -				C
Zinc phosphate	1 - < 3	7779-90-0 231-944-3	-	030-011-00-6	
Classification:	DSD: N;R50/53				
	CLP: -				
Ethyl benzene	< 1	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				
light aromatic solvent naphtha	< 1	64742-95-6 265-199-0	-	649-356-00-4	
Classification:	DSD: Carc. Cat. 2;R45, Muta. Cat. 2;R46, Xn;R65				P
	CLP: Asp. Tox. 1;H304, Muta. 1B;H340, Carc. 1B;H350				P
1,2-Dimethylbenzene	< 0,3	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
Zinc oxide	< 0,2	1314-13-2 215-222-5	-	030-013-00-7	
Classification:	DSD: N;R50/53				
	CLP: -				

Other components below reportable levels 70 - < 80

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

Call a physician if symptoms develop or persist.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
4.2. Most important symptoms and effects, both acute and delayed	Direct contact with eyes may cause temporary irritation.
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. Foam. 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. 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 entry into waterways, sewer, basements or confined areas. 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. 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. When using do not smoke. 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 prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
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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	
	STEL	50 ppm 442 mg/m3	
acetone (CAS 67-64-1)	MAK	100 ppm 1200 mg/m3	
	STEL	500 ppm 4800 mg/m3	
Ethyl benzene (CAS 100-41-4)	Ceiling	2000 ppm 880 mg/m3	
	MAK	200 ppm 440 mg/m3	
Isobutyl acetate (CAS 110-19-0)	Ceiling	100 ppm 480 mg/m3	
	MAK	100 ppm 480 mg/m3	
n-Butyl acetate (CAS 123-86-4)	Ceiling	100 ppm 480 mg/m3	
	MAK	100 ppm 480 mg/m3	
Talc (CAS 14807-96-6)	MAK	2 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	MAK	5 mg/m3	Respirable dust.
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable dust.
	MAK	5 mg/m3	Fume and respirable dust.

Belgium. Exposure Limit Values.

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
	TWA	100 ppm 221 mg/m3	
acetone (CAS 67-64-1)	STEL	50 ppm 2420 mg/m3	
	TWA	1000 ppm 1210 mg/m3	
barium sulfate (CAS 7727-43-7)	TWA	500 ppm 10 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	551 mg/m3	
	TWA	125 ppm 442 mg/m3	
Isobutyl acetate (CAS 110-19-0)	TWA	100 ppm 723 mg/m3	
	STEL	150 ppm 964 mg/m3	
n-Butyl acetate (CAS 123-86-4)	STEL	200 ppm	

Belgium. Exposure Limit Values.

Components	Type	Value	Form
	TWA	723 mg/m3 150 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
		10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
		2 mg/m3	Respirable fraction.
		10 mg/m3	Dust.

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

Components	Type	Value	Form
1,2-Dimethylbenzene (CAS 95-47-6)	STEL	442 mg/m3	
		100 ppm	
	TWA	221 mg/m3	
		50 ppm	
acetone (CAS 67-64-1)	STEL	1400 mg/m3	
	TWA	600 mg/m3	
barium sulfate (CAS 7727-43-7)	TWA	10 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	545 mg/m3	
	TWA	435 mg/m3	
n-Butyl acetate (CAS 123-86-4)	STEL	950 mg/m3	
	TWA	710 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.
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	
	TWA	5 mg/m3	

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

Components	Type	Value	Form
1,2-Dimethylbenzene (CAS 95-47-6)	MAC	221 mg/m3	
		50 ppm	
	STEL	442 mg/m3	
		100 ppm	
acetone (CAS 67-64-1)	MAC	1210 mg/m3	
		500 ppm	
	STEL	3620 mg/m3	
		1500 ppm	
barium sulfate (CAS 7727-43-7)	MAC	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
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	
n-Butyl acetate (CAS 123-86-4)	MAC	724 mg/m3	
		150 ppm	
	STEL	966 mg/m3	
		200 ppm	

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

Components	Type	Value	Form
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.
Zinc oxide (CAS 1314-13-2)	MAC	5 mg/m3	
	STEL	10 mg/m3	

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

Components	Type	Value	Form
n-Butyl acetate (CAS 123-86-4)	TWA	710 mg/m3	
		150 ppm	
Talc (CAS 14807-96-6)	TWA	706 part/cm3	
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	Fume.

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
1,2-Dimethylbenzene (CAS 95-47-6)	Ceiling	400 mg/m3	
	TWA	200 mg/m3	
acetone (CAS 67-64-1)	Ceiling	1500 mg/m3	
	TWA	800 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	
n-Butyl acetate (CAS 123-86-4)	Ceiling	1200 mg/m3	
	TWA	950 mg/m3	
Talc (CAS 14807-96-6)	TWA	10 mg/m3	Total dust.
	TWA	10 mg/m3	Respirable dust.
Zinc oxide (CAS 1314-13-2)	Ceiling	5 mg/m3	
	TWA	2 mg/m3	

Denmark. Exposure Limit Values

Components	Type	Value	Form
1,2-Dimethylbenzene (CAS 95-47-6)	TLV	109 mg/m3	
		25 ppm	
acetone (CAS 67-64-1)	TLV	600 mg/m3	
		250 ppm	
Calcium silicate, mineral form (CAS 13983-17-0)	TLV	1 fibers/cm3	Fiber.
Ethyl benzene (CAS 100-41-4)	TLV	217 mg/m3	
		50 ppm	
Isobutyl acetate (CAS 110-19-0)	TLV	710 mg/m3	
		150 ppm	
n-Butyl acetate (CAS 123-86-4)	TLV	710 mg/m3	
		150 ppm	
Titanium dioxide (CAS 13463-67-7)	TLV	6 mg/m3	
Zinc oxide (CAS 1314-13-2)	TLV	4 mg/m3	

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

Components	Type	Value
1,2-Dimethylbenzene (CAS 95-47-6)	STEL	450 mg/m3
		100 ppm

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

Components	Type	Value
	TWA	200 mg/m ³
		50 ppm
acetone (CAS 67-64-1)	TWA	1210 mg/m ³
		500 ppm
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m ³
		200 ppm
	TWA	442 mg/m ³
		100 ppm
Isobutyl acetate (CAS 110-19-0)	STEL	700 mg/m ³
		150 ppm
	TWA	500 mg/m ³
		100 ppm
n-Butyl acetate (CAS 123-86-4)	STEL	700 mg/m ³
		150 ppm
	TWA	500 mg/m ³
		100 ppm
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m ³
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m ³

Finland. Workplace Exposure Limits

Components	Type	Value	Form
1,2-Dimethylbenzene (CAS 95-47-6)	STEL	440 mg/m ³	
		110 ppm	
	TWA	220 mg/m ³	
		50 ppm	
acetone (CAS 67-64-1)	STEL	1500 mg/m ³	
		630 ppm	
	TWA	1200 mg/m ³	
		500 ppm	
barium sulfate (CAS 7727-43-7)	TWA	10 mg/m ³	Dust.
diboron calcium tetraoxide (CAS 13701-64-9)	TWA	0,5 mg/m ³	
Ethyl benzene (CAS 100-41-4)	STEL	880 mg/m ³	
		200 ppm	
	TWA	220 mg/m ³	
		50 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	960 mg/m ³	
		200 ppm	
	TWA	720 mg/m ³	
		150 ppm	
light aromatic solvent naphtha (CAS 64742-95-6)	TWA	100 mg/m ³	
n-Butyl acetate (CAS 123-86-4)	STEL	960 mg/m ³	
		200 ppm	
	TWA	720 mg/m ³	
		150 ppm	
Talc (CAS 14807-96-6)	STEL	2 ppm	Inhalable dust.
		1 ppm	Respirable.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m ³	Dust.
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m ³	Fume.
	TWA	2 mg/m ³	Fume.

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	
acetone (CAS 67-64-1)	VME	221 mg/m3	
		50 ppm	
Ethyl benzene (CAS 100-41-4)	VLE	2420 mg/m3	
		1000 ppm	
Isobutyl acetate (CAS 110-19-0)	VME	1210 mg/m3	
		500 ppm	
n-Butyl acetate (CAS 123-86-4)	VLE	442 mg/m3	
		100 ppm	
Titanium dioxide (CAS 13463-67-7)	VME	88,4 mg/m3	
		20 ppm	
Zinc oxide (CAS 1314-13-2)	VLE	940 mg/m3	
		200 ppm	
	VME	710 mg/m3	
		150 ppm	
	VLE	940 mg/m3	
		200 ppm	
	VME	710 mg/m3	
		150 ppm	
	VME	10 mg/m3	
		10 mg/m3	
		5 mg/m3	Fume.
		10 mg/m3	Dust.

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-Dimethybenzene (CAS 95-47-6)	TWA	440 mg/m3	
		100 ppm	
acetone (CAS 67-64-1)	TWA	1200 mg/m3	
		500 ppm	
barium sulfate (CAS 7727-43-7)	TWA	4 mg/m3	Inhalable fraction.
		1,5 mg/m3	Respirable fraction.
Ethyl benzene (CAS 100-41-4)	TWA	88 mg/m3	
		20 ppm	
Isobutyl acetate (CAS 110-19-0)	TWA	480 mg/m3	
		100 ppm	
n-Butyl acetate (CAS 123-86-4)	TWA	480 mg/m3	
		100 ppm	
Zinc oxide (CAS 1314-13-2)	TWA	2 mg/m3	Inhalable fraction.
		0,1 mg/m3	Respirable fraction.
Zinc phosphate (CAS 7779-90-0)	TWA	2 mg/m3	Inhalable fraction.
		0,1 mg/m3	Respirable fraction.

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	
acetone (CAS 67-64-1)	AGW	1200 mg/m3	
		500 ppm	
barium sulfate (CAS 7727-43-7)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.

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

Components	Type	Value	Form
Ethyl benzene (CAS 100-41-4)	AGW	88 mg/m3	
		20 ppm	
Isobutyl acetate (CAS 110-19-0)	AGW	300 mg/m3	
		62 ppm	
n-Butyl acetate (CAS 123-86-4)	AGW	300 mg/m3	
		62 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.

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

Components	Type	Value	Form
1,2-Dimethylbenzene (CAS 95-47-6)	STEL	650 mg/m3	
		150 ppm	
	TWA	435 mg/m3	
		100 ppm	
acetone (CAS 67-64-1)	STEL	3560 mg/m3	
	TWA	1780 mg/m3	
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	
n-Butyl acetate (CAS 123-86-4)	STEL	950 mg/m3	
		200 ppm	
	TWA	710 mg/m3	
		150 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
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
1,2-Dimethylbenzene (CAS 95-47-6)	STEL	442 mg/m3	
	TWA	221 mg/m3	
acetone (CAS 67-64-1)	STEL	2420 mg/m3	
	TWA	1210 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
	TWA	442 mg/m3	
n-Butyl acetate (CAS 123-86-4)	STEL	950 mg/m3	
	TWA	950 mg/m3	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable.
Zinc oxide (CAS 1314-13-2)	STEL	20 mg/m3	Respirable.
	TWA	5 mg/m3	Respirable.

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

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
	TWA	100 ppm 109 mg/m3	
acetone (CAS 67-64-1)	TWA	25 ppm 600 mg/m3	
	TWA	250 ppm 1 fibers/cm3	Particulate.
Calcium silicate, mineral form (CAS 13983-17-0)	TWA	1 fibers/cm3	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
	TWA	200 ppm 200 mg/m3	
Isobutyl acetate (CAS 110-19-0)	TWA	50 ppm 700 mg/m3	
	TWA	150 ppm 700 mg/m3	
n-Butyl acetate (CAS 123-86-4)	TWA	150 ppm 6 mg/m3	
	TWA	4 mg/m3	Fume.

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
	TWA	100 ppm 221 mg/m3	
acetone (CAS 67-64-1)	TWA	50 ppm 1210 mg/m3	
	TWA	500 ppm 2 mg/m3	Respirable dust.
barium sulfate (CAS 7727-43-7)	STEL	884 mg/m3	
	TWA	200 ppm 442 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	100 ppm 875 mg/m3	
	TWA	187 ppm 700 mg/m3	
Isobutyl acetate (CAS 110-19-0)	STEL	150 ppm 950 mg/m3	
	TWA	200 ppm 710 mg/m3	
n-Butyl acetate (CAS 123-86-4)	STEL	150 ppm 10 mg/m3	Total inhalable dust.
	TWA	0,8 mg/m3 4 mg/m3	Respirable dust. Respirable dust.
Talc (CAS 14807-96-6)	STEL	10 mg/m3	Total inhalable dust.
	TWA	10 mg/m3	Respirable fraction and fume.
Titanium dioxide (CAS 13463-67-7)	STEL	2 mg/m3	Respirable fraction and fume.
	TWA		

Italy. Occupational Exposure Limits

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
	TWA	100 ppm 221 mg/m3	

Italy. Occupational Exposure Limits

Components	Type	Value	Form
acetone (CAS 67-64-1)	TWA	50 ppm	Inhalable fraction. Respirable fraction. Respirable fraction.
		1210 mg/m3	
barium sulfate (CAS 7727-43-7)	TWA	500 ppm	
		5 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
		200 ppm	
Isobutyl acetate (CAS 110-19-0)	TWA	442 mg/m3	
		100 ppm	
n-Butyl acetate (CAS 123-86-4)	STEL	150 ppm	
		200 ppm	
Talc (CAS 14807-96-6)	TWA	150 ppm	
		2 mg/m3	
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
		10 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	
		2 mg/m3	

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
acetone (CAS 67-64-1)	TWA	221 mg/m3
		50 ppm
Ethyl benzene (CAS 100-41-4)	STEL	1210 mg/m3
		500 ppm
n-Butyl acetate (CAS 123-86-4)	TWA	884 mg/m3
		200 ppm
Titanium dioxide (CAS 13463-67-7)	TWA	442 mg/m3
		100 ppm
Zinc oxide (CAS 1314-13-2)	TWA	200 mg/m3
		10 mg/m3
Zinc oxide (CAS 1314-13-2)	TWA	0,5 mg/m3

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	
4-Chlorobenzotrifluoride (CAS 98-56-6)	TWA	200 mg/m3	
		50 ppm	
acetone (CAS 67-64-1)	STEL	20 mg/m3	
		2420 mg/m3	
Ethyl benzene (CAS 100-41-4)	TWA	1000 ppm	
		1210 mg/m3	
Isobutyl acetate (CAS 110-19-0)	STEL	500 ppm	
		884 mg/m3	
n-Butyl acetate (CAS 123-86-4)	TWA	200 ppm	
		442 mg/m3	
Titanium dioxide (CAS 13463-67-7)	TWA	100 ppm	
		700 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	150 ppm	
		500 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	100 ppm	

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

Components	Type	Value	Form
n-Butyl acetate (CAS 123-86-4)	STEL	700 mg/m3	
		150 ppm	
Talc (CAS 14807-96-6)	TWA	500 mg/m3	
		100 ppm	
	TWA	2 mg/m3	Inhalable fraction.
		1 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	

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
acetone (CAS 67-64-1)	TWA	221 mg/m3
		50 ppm
Ethyl benzene (CAS 100-41-4)	TWA	1210 mg/m3
		500 ppm
	STEL	884 mg/m3
		200 ppm
	TWA	442 mg/m3
		100 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
acetone (CAS 67-64-1)	TWA	221 mg/m3
		50 ppm
Ethyl benzene (CAS 100-41-4)	TWA	1210 mg/m3
		500 ppm
	STEL	884 mg/m3
		200 ppm
	TWA	442 mg/m3
		100 ppm

Netherlands. OELs (binding)

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
		210 mg/m3	
acetone (CAS 67-64-1)	STEL	2420 mg/m3	
	TWA	1210 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	430 mg/m3	
	TWA	215 mg/m3	
Talc (CAS 14807-96-6)	TWA	0,25 mg/m3	Respirable dust.

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	
acetone (CAS 67-64-1)	TLV	295 mg/m3	
		125 ppm	
Ethyl benzene (CAS 100-41-4)	TLV	20 mg/m3	
		5 ppm	

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
Isobutyl acetate (CAS 110-19-0)	TLV	355 mg/m3 75 ppm	
n-Butyl acetate (CAS 123-86-4)	TLV	355 mg/m3 75 ppm	
Talc (CAS 14807-96-6)	TLV	6 mg/m3 2 mg/m3	Total dust. Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TLV	5 mg/m3	
Zinc oxide (CAS 1314-13-2)	TLV	5 mg/m3	

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	
acetone (CAS 67-64-1)	STEL TWA	1800 mg/m3 600 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	400 mg/m3	
Isobutyl acetate (CAS 110-19-0)	TWA STEL	200 mg/m3 400 mg/m3	
n-Butyl acetate (CAS 123-86-4)	TWA STEL	200 mg/m3 950 mg/m3	
Talc (CAS 14807-96-6)	TWA TWA	200 mg/m3 4 mg/m3	Total dust. Respirable dust.
Titanium dioxide (CAS 13463-67-7)	STEL	1 mg/m3 30 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA STEL TWA	10 mg/m3 10 mg/m3 5 mg/m3	Total dust. Fume. Fume.

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
	TWA	100 ppm 221 mg/m3
acetone (CAS 67-64-1)	TWA	50 ppm 1210 mg/m3
Ethyl benzene (CAS 100-41-4)	STEL	500 ppm 884 mg/m3
	TWA	200 ppm 442 mg/m3 100 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	
acetone (CAS 67-64-1)	TWA STEL	100 ppm 750 ppm	
barium sulfate (CAS 7727-43-7)	TWA	500 ppm 10 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	125 ppm	
Isobutyl acetate (CAS 110-19-0)	TWA TWA	100 ppm 150 ppm	

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

Components	Type	Value	Form
n-Butyl acetate (CAS 123-86-4)	STEL	200 ppm	
	TWA	150 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

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	
	TWA	100 ppm 221 mg/m3 50 ppm	
acetone (CAS 67-64-1)	TWA	1210 mg/m3 500 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
	TWA	200 ppm 442 mg/m3 100 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	950 mg/m3	
	TWA	200 ppm 715 mg/m3 150 ppm	
n-Butyl acetate (CAS 123-86-4)	STEL	950 mg/m3	
	TWA	200 ppm 715 mg/m3 150 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	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.

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	
	TWA	100 ppm 221 mg/m3 50 ppm	
acetone (CAS 67-64-1)	TWA	1210 mg/m3 500 ppm	
barium sulfate (CAS 7727-43-7)	TWA	4 mg/m3	Inhalable fraction.
Ethyl benzene (CAS 100-41-4)	STEL	1,5 mg/m3 884 mg/m3	Respirable fraction.
	TWA	200 ppm 442 mg/m3 100 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	700 mg/m3	
	TWA	150 ppm 500 mg/m3 100 ppm	
n-Butyl acetate (CAS 123-86-4)	STEL	700 mg/m3	
	TWA	150 ppm	

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

Components	Type	Value	Form
	TWA	500 mg/m3	
		100 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	
Zinc oxide (CAS 1314-13-2)	STEL	1 mg/m3	Respirable fume.
	TWA	1 mg/m3	Respirable fume.
Zinc phosphate (CAS 7779-90-0)	TWA	2 mg/m3	Inhalable fraction.
		0,1 mg/m3	Respirable fraction.

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	
acetone (CAS 67-64-1)	TWA	1210 mg/m3	
		500 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	
light aromatic solvent naphtha (CAS 64742-95-6)	TWA	100 mg/m3	
		20 ppm	
n-Butyl acetate (CAS 123-86-4)	TWA	480 mg/m3	
		100 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	Respirable fume.

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	
acetone (CAS 67-64-1)	TWA	1210 mg/m3	
		500 ppm	
barium sulfate (CAS 7727-43-7)	TWA	10 mg/m3	
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	
n-Butyl acetate (CAS 123-86-4)	STEL	965 mg/m3	
		200 ppm	
	TWA	724 mg/m3	
		150 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	442 mg/m3	
	TWA	100 ppm 221 mg/m3	
acetone (CAS 67-64-1)	STEL	50 ppm 1200 mg/m3	
	TWA	500 ppm 600 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	250 ppm 450 mg/m3	
	TWA	100 ppm 200 mg/m3	
Isobutyl acetate (CAS 110-19-0)	STEL	50 ppm 700 mg/m3	
	TWA	150 ppm 500 mg/m3	
n-Butyl acetate (CAS 123-86-4)	STEL	100 ppm 700 mg/m3	
	TWA	150 ppm 500 mg/m3	
Talc (CAS 14807-96-6)	TWA	100 ppm 2 mg/m3	Total dust.
	TWA	1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	Total dust.
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	Total dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	870 mg/m3	
	TWA	200 ppm 435 mg/m3	
acetone (CAS 67-64-1)	STEL	100 ppm 2400 mg/m3	
	TWA	1000 ppm 1200 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	500 ppm 220 mg/m3	
	TWA	50 ppm 220 mg/m3	
Isobutyl acetate (CAS 110-19-0)	STEL	50 ppm 960 mg/m3	
	TWA	200 ppm 480 mg/m3	
n-Butyl acetate (CAS 123-86-4)	STEL	100 ppm 960 mg/m3	
	TWA	200 ppm 480 mg/m3	
Talc (CAS 14807-96-6)	TWA	100 ppm 2 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	3 mg/m3	Respirable dust.
Zinc oxide (CAS 1314-13-2)	STEL	3 mg/m3	Fume and respirable dust.
	TWA	3 mg/m3	Fume and respirable dust.
Zinc phosphate (CAS 7779-90-0)	STEL	4 mg/m3	Inhalable dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
	TWA	0,4 mg/m3 2 mg/m3 0,1 mg/m3	Respirable dust. Inhalable dust. Respirable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
1,2-Dimethybenzene (CAS 95-47-6)	STEL	441 mg/m3	
	TWA	100 ppm 220 mg/m3 50 ppm	
acetone (CAS 67-64-1)	STEL	3620 mg/m3 1500 ppm	
	TWA	1210 mg/m3 500 ppm	
barium sulfate (CAS 7727-43-7)	TWA	4 mg/m3	Respirable dust.
Ethyl benzene (CAS 100-41-4)	STEL	10 mg/m3 552 mg/m3	Inhalable dust.
	TWA	125 ppm 441 mg/m3 100 ppm	
Isobutyl acetate (CAS 110-19-0)	STEL	903 mg/m3	
	TWA	187 ppm 724 mg/m3 150 ppm	
n-Butyl acetate (CAS 123-86-4)	STEL	966 mg/m3	
	TWA	200 ppm 724 mg/m3 150 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

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
	TWA	100 ppm 221 mg/m3 50 ppm
acetone (CAS 67-64-1)	TWA	1210 mg/m3 500 ppm
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3
	TWA	200 ppm 442 mg/m3 100 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 1400 mg/g	Methylhippuric acids Methylhippuric acids	Creatinine in urine Creatinine in urine	* *
Ethyl benzene (CAS 100-41-4)	1100 µmol/mmol	Mandelic acid	Creatinine in urine	*

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
	1500 mg/g	Mandelic acid	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-Dimethylbenzene (CAS 95-47-6)	5 mmol/l	Methylhippuric acids	Urine	*
Ethyl benzene (CAS 100-41-4)	5,2 mmol/l	Mandelic acid	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-Dimethylbenzene (CAS 95-47-6)	1500 mg/g	Acides méthylhippuriques	Creatinine in urine	*
acetone (CAS 67-64-1)	100 mg/l	Acétone	Urine	*
Ethyl benzene (CAS 100-41-4)	1500 mg/g	Acide mandélique	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-Dimethylbenzene (CAS 95-47-6)	2000 mg/l	Methylhippur-(Tolur-) säure (alle Isomere)	Urine	*
	1,5 mg/l	Xylol	Blood	*
acetone (CAS 67-64-1)	80 mg/l	Aceton	Urine	*
Ethyl benzene (CAS 100-41-4)	300 mg/l	Mandelsäure plus Phenylglyoxylsäure	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
1,2-Dimethylbenzene (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	*

* - 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-Dimethylbenzene (CAS 95-47-6)	1334 mg/g	Methylhippuric acids	Creatinine in urine	*
	2000 mg/l	Methylhippuric acids	Urine	*
	1,5 mg/l	Xylene	Blood	*
acetone (CAS 67-64-1)	53,36 mg/g	Acetone	Creatinine in urine	*
	80 mg/l	Acetone	Urine	*
Ethyl benzene (CAS 100-41-4)	8,03 mg/g	2-ethylphenol	Creatinine in urine	*
	12 mg/l	2-ethylphenol	Urine	*

* - 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	*
acetone (CAS 67-64-1)	50 mg/l	Acetona	Urine	*
Ethyl benzene (CAS 100-41-4)	700 mg/g	Suma del acido mandélico y el ácido fenilglioxílico	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-Hippurs äure	Creatinine in urine	*
	1,5 mg/l	Xylol	Blood	*
acetone (CAS 67-64-1)	80 mg/l	Aceton	Urine	*
Ethyl benzene (CAS 100-41-4)	800 mg/l	Mandelsäure plus Phenylglyoxyls äure	Urine	*

* - 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	*

* - 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.
Ethyl benzene (CAS 100-41-4)	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.

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 protective gloves.

- Other Wear suitable protective 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	-33 °C (-27,4 °F) estimated
Initial boiling point and boiling range	139,3 °C (282,74 °F) estimated
Flash point	46,7 °C (116,0 °F) estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	7,96 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	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
9.2. Other information	
Density	13,03 lbs/gal
Percent volatile	42,83 %
Specific gravity	1,56
VOC	1,3 lbs/gal Material 2,1 lbs/gal Regulatory 159 g/l Material 260 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 oxidising agents.
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	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
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

Exposure may cause temporary irritation, redness, or discomfort.

11.1. Information on toxicological effects

Components	Species	Test results
1,2-Dimethybenzene (CAS 95-47-6)		
Acute		
Dermal		
LD50	Rabbit	> 43 g/kg
Inhalation		
LC50	Mouse	4600 ppm, 6 Hours
	Rat	6350 ppm, 4 Hours
Oral		
LD50	Mouse	1590 mg/kg
	Rat	4300 mg/kg
acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	20000 mg/kg 20 ml/kg
Inhalation		
LC50	Rat	76 mg/l, 4 Hours 50,1 mg/l, 8 Hours
Oral		
LD50	Mouse	3000 mg/kg
	Rabbit	5340 mg/kg
	Rat	5800 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
n-Butyl acetate (CAS 123-86-4)		
Acute		
Inhalation		
LC50	Wistar rat	160 mg/l, 4 Hours
Oral		
LD50	Rat	14000 mg/kg
Zinc oxide (CAS 1314-13-2)		
Acute		
Inhalation		
LC50	Mouse	> 5,7 mg/l, 4 Hours
Oral		
LD50	Mouse	7950 mg/kg
	Rat	> 5 g/kg

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

Skin corrosion/irritation

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

Serious eye damage/eye irritation	Due to partial or complete lack of data the classification is not possible.
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	May cause genetic defects.
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.
Ethyl benzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Titanium dioxide (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.
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 Toxic 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
acetone (CAS 67-64-1)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 21,6 - 23,9 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss) 4740 - 6330 mg/l, 96 hours
barium sulfate (CAS 7727-43-7)		
Aquatic		
Crustacea	EC50	Tubificid worm (Tubifex tubifex) 28,61 - 38,03 mg/l, 48 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
n-Butyl acetate (CAS 123-86-4)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 17 - 19 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
Zinc oxide (CAS 1314-13-2)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 2246 mg/l, 96 hours
Zinc phosphate (CAS 7779-90-0)		
Aquatic		
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss) 0,09 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-Dimethylbenzene	3,12
acetone	-0,24
Ethyl benzene	3,15
Isobutyl acetate	1,78
n-Butyl acetate	1,78

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)	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	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	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	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 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 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 III

14.5. Environmental hazards Yes

ERG Code 3L

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 III

14.5. Environmental hazards

Marine pollutant Yes

EmS F-E, S-E

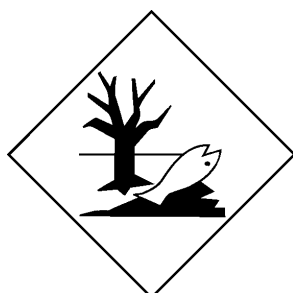
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

ADN; ADR; IATA; IMDG; RID



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

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
light aromatic solvent naphtha (CAS 64742-95-6)

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended
acetone (CAS 67-64-1)
Ethyl benzene (CAS 100-41-4)
Isobutyl acetate (CAS 110-19-0)

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

light aromatic solvent naphtha (CAS 64742-95-6)

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

light aromatic solvent naphtha (CAS 64742-95-6)

Other EU regulations

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

1,2-Dimethylbenzene (CAS 95-47-6)
acetone (CAS 67-64-1)
Ethyl benzene (CAS 100-41-4)
Isobutyl acetate (CAS 110-19-0)
n-Butyl acetate (CAS 123-86-4)
Zinc oxide (CAS 1314-13-2)
Zinc phosphate (CAS 7779-90-0)

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-Dimethylbenzene (CAS 95-47-6)
acetone (CAS 67-64-1)
Ethyl benzene (CAS 100-41-4)
Isobutyl acetate (CAS 110-19-0)
light aromatic solvent naphtha (CAS 64742-95-6)
n-Butyl acetate (CAS 123-86-4)

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

Ethyl benzene (CAS 100-41-4)
light aromatic solvent naphtha (CAS 64742-95-6)

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. Pregnant women should not work with the product, if there is the least risk of exposure.

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.
R38 Irritating to skin.
R45 May cause cancer.
R46 May cause heritable genetic damage.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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.
H340 May cause genetic defects.
H350 May cause cancer.
H351 Suspected of causing cancer.
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.
H412 Harmful to aquatic life with long lasting effects.

Revision information

None.

Training information

Follow training instructions when handling this material.

Disclaimer

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