

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name or designation of the mixture 2.1 VOC PRIMER SURFACER
Registration number -
Synonyms None.
Product code RSP-130-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

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

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

Carcinogenicity Category 1A H350 - May cause cancer.

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 Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.
Environmental hazards Not classified for hazards to the 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: Carbon Black, Ethyl benzene, Silicon dioxide, Styrene, monomer, Titanium dioxide

Hazard pictograms



Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour.
H350 May cause cancer.
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.
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.

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 83,98 % 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
Titanium dioxide	10 - < 20	13463-67-7 236-675-5	-	-	
Classification:	DSD: - CLP: Carc. 2;H351				
acetone	5 - < 10	67-64-1 200-662-2	-	606-001-00-8	#
Classification:	DSD: F;R11, Xi;R36, R66-67 CLP: -				
Xylene	5 - < 10	1330-20-7 215-535-7	-	601-022-00-9	#
Classification:	DSD: R10, Xn;R20/21, Xi;R38 CLP: Flam. Liq. 3;H226, Acute Tox. 4;H312, Skin Irrit. 2;H315, Acute Tox. 4;H332, Aquatic Chronic 2;H411				C C

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
2-Heptanone	1 - < 3	110-43-0 203-767-1	-	606-024-00-3	#
Classification:	DSD: R10, Xn;R20/22 CLP: -				
Ethyl benzene	1 - < 3	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				
Carbon Black	< 0,2	1333-86-4 215-609-9	-	-	
Classification:	DSD: - CLP: -				
Silicon dioxide	< 0,2	14808-60-7 238-878-4	-	-	
Classification:	DSD: - CLP: -				
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 CLP: -				D D

Other components below reportable levels 60 - < 70

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. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation 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 Highly flammable liquid and vapour.

5.1. Extinguishing media	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
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.

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.
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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.
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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. 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.
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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.
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
2-Heptanone (CAS 110-43-0)	MAK	237 mg/m ³	
		50 ppm	

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

Components	Type	Value	Form
	STEL	473 mg/m3 100 ppm	
acetone (CAS 67-64-1)	MAK	1200 mg/m3 500 ppm	
	STEL	4800 mg/m3 2000 ppm	
Ethyl benzene (CAS 100-41-4)	Ceiling	880 mg/m3	
	MAK	200 ppm 440 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	
	STEL	20 ppm 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.
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
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3	
	TWA	100 ppm 238 mg/m3 50 ppm	
acetone (CAS 67-64-1)	STEL	2420 mg/m3 1000 ppm	
	TWA	1210 mg/m3 500 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	
Carbon Black (CAS 1333-86-4)	TWA	3,5 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	551 mg/m3	
	TWA	125 ppm 442 mg/m3 100 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	
	TWA	100 ppm 108 mg/m3 25 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
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
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3	
		100 ppm	
	TWA	238 mg/m3	
		50 ppm	
acetone (CAS 67-64-1)	STEL	1400 mg/m3	
	TWA	600 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.
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.
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
2-Heptanone (CAS 110-43-0)	MAC	238 mg/m3	
		50 ppm	
	STEL	475 mg/m3	
		100 ppm	
acetone (CAS 67-64-1)	MAC	1210 mg/m3	
		500 ppm	
	STEL	3620 mg/m3	
		1500 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	
Ethyl benzene (CAS 100-41-4)	MAC	442 mg/m3	
		100 ppm	
	STEL	884 mg/m3	
		200 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.

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

Components	Type	Value	Form
Titanium dioxide (CAS 13463-67-7)	STEL	4 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
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	
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
2-Heptanone (CAS 110-43-0)	Ceiling	300 mg/m3	
	TWA	150 mg/m3	
acetone (CAS 67-64-1)	Ceiling	1500 mg/m3	
	TWA	800 mg/m3	
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	Dust.
Carbon Black (CAS 1333-86-4)	TWA	2 mg/m3	Dust.
Ethyl benzene (CAS 100-41-4)	Ceiling	500 mg/m3	
	TWA	200 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.
Xylene (CAS 1330-20-7)	Ceiling	400 mg/m3	
	TWA	200 mg/m3	

Denmark. Exposure Limit Values

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	TLV	238 mg/m3	
		50 ppm	
acetone (CAS 67-64-1)	TLV	600 mg/m3	
		250 ppm	
Carbon Black (CAS 1333-86-4)	TLV	3,5 mg/m3	
Ethyl benzene (CAS 100-41-4)	TLV	217 mg/m3	
		50 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	
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
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3	
		100 ppm	
	TWA	238 mg/m3	
		50 ppm	
acetone (CAS 67-64-1)	TWA	1210 mg/m3	
		500 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	5 mg/m3	Respirable dust.
		10 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
		200 ppm	
	TWA	442 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	
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
2-Heptanone (CAS 110-43-0)	STEL	360 mg/m3	
		75 ppm	
	TWA	240 mg/m3	
		50 ppm	
acetone (CAS 67-64-1)	STEL	1500 mg/m3	
		630 ppm	
	TWA	1200 mg/m3	
		500 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	Dust.
Carbon Black (CAS 1333-86-4)	STEL	7 mg/m3	
		3,5 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	880 mg/m3	
		200 ppm	
	TWA	220 mg/m3	
		50 ppm	
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.
Xylene (CAS 1330-20-7)	STEL	440 mg/m3	
		100 ppm	

**Finland. Workplace Exposure Limits
Components**
Type
Value
Form

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

2-Heptanone (CAS 110-43-0)

VLE

475 mg/m3

VME

100 ppm
238 mg/m3
50 ppm

acetone (CAS 67-64-1)

VLE

2420 mg/m3
1000 ppm

VME

1210 mg/m3
500 ppm

Calcium carbonate (CAS 1317-65-3)

VME

10 mg/m3

Carbon Black (CAS 1333-86-4)

VME

3,5 mg/m3

Ethyl benzene (CAS 100-41-4)

VLE

442 mg/m3

VME

100 ppm
88,4 mg/m3
20 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

Titanium dioxide (CAS 13463-67-7)

VME

50 ppm
10 mg/m3

Xylene (CAS 1330-20-7)

VLE

442 mg/m3

VME

100 ppm
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

acetone (CAS 67-64-1)

TWA

1200 mg/m3
500 ppm

Ethyl benzene (CAS 100-41-4)

TWA

88 mg/m3

Styrene, monomer (CAS 100-42-5)

TWA

20 ppm
86 mg/m3

Xylene (CAS 1330-20-7)

TWA

20 ppm
440 mg/m3
100 ppm

**Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace
Components**
Type
Value
Form

2-Heptanone (CAS 110-43-0)

AGW

238 mg/m3

acetone (CAS 67-64-1)

AGW

1200 mg/m3
500 ppm

Ethyl benzene (CAS 100-41-4)

AGW

88 mg/m3

Styrene, monomer (CAS 100-42-5)

AGW

20 ppm
86 mg/m3

Talc (CAS 14807-96-6)

AGW

20 ppm
10 mg/m3
1,25 mg/m3

Inhalable fraction.

Respirable fraction.

Titanium dioxide (CAS 13463-67-7)

AGW

10 mg/m3

Inhalable fraction.

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

Components	Type	Value	Form
Xylene (CAS 1330-20-7)	AGW	1,25 mg/m3 440 mg/m3 100 ppm	Respirable fraction.

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

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	STEL	465 mg/m3	
	TWA	100 ppm 465 mg/m3 100 ppm	
acetone (CAS 67-64-1)	STEL	3560 mg/m3	
	TWA	1780 mg/m3	
Calcium carbonate (CAS 1317-65-3)	TWA	5 mg/m3	Respirable.
Carbon Black (CAS 1333-86-4)	STEL	10 mg/m3 7 mg/m3	Inhalable
	TWA	3,5 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	545 mg/m3	
	TWA	125 ppm 435 mg/m3 100 ppm	
Styrene, monomer (CAS 100-42-5)	STEL	1050 mg/m3	
	TWA	250 ppm 425 mg/m3 100 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3 10 mg/m3	Respirable. Inhalable
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	Respirable.
Xylene (CAS 1330-20-7)	STEL	10 mg/m3 650 mg/m3 150 ppm	Inhalable
	TWA	435 mg/m3 100 ppm	

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	STEL	476 mg/m3	
	TWA	238 mg/m3	
acetone (CAS 67-64-1)	STEL	2420 mg/m3	
	TWA	1210 mg/m3	
Calcium carbonate (CAS 1317-65-3)	TWA	10 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.
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
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3	
		100 ppm	

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

Components	Type	Value	Form
	TWA	238 mg/m3 50 ppm	
acetone (CAS 67-64-1)	TWA	600 mg/m3 250 ppm	
Carbon Black (CAS 1333-86-4)	TWA	3,5 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
	TWA	200 ppm 200 mg/m3 50 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	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	
	TWA	100 ppm 109 mg/m3 25 ppm	

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3	
	TWA	100 ppm 238 mg/m3 50 ppm	
acetone (CAS 67-64-1)	TWA	1210 mg/m3 500 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	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
	TWA	200 ppm 442 mg/m3 100 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	
	TWA	40 ppm 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.
Xylene (CAS 1330-20-7)	STEL	442 mg/m3 100 ppm	
	TWA	221 mg/m3 50 ppm	

Italy. Occupational Exposure Limits Components

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3	
		100 ppm	
	TWA	238 mg/m3	
		50 ppm	
acetone (CAS 67-64-1)	TWA	1210 mg/m3	
		500 ppm	
Carbon Black (CAS 1333-86-4)	TWA	3 mg/m3	Inhalable fraction.
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
		200 ppm	
	TWA	442 mg/m3	
		100 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	
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

Components	Type	Value
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3
		100 ppm
	TWA	238 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
		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
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

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	STEL	250 mg/m3	
		50 ppm	
	TWA	120 mg/m3	
		25 ppm	
4-Chlorobenzotrifluoride (CAS 98-56-6)	TWA	20 mg/m3	
acetone (CAS 67-64-1)	STEL	2420 mg/m3	
		1000 ppm	
	TWA	1210 mg/m3	
		500 ppm	

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

Components	Type	Value	Form
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	Respirable fraction.
	TWA	200 ppm 442 mg/m3 100 ppm	
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	
Styrene, monomer (CAS 100-42-5)	STEL	200 mg/m3	
	TWA	50 ppm 90 mg/m3 20 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3 1 mg/m3	
		5 mg/m3	Inhalable fraction. Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA		
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
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3
	TWA	100 ppm 238 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
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
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3
	TWA	100 ppm 238 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
Xylene (CAS 1330-20-7)	STEL	442 mg/m3 100 ppm
	TWA	221 mg/m3 50 ppm

Netherlands. OELs (binding)

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	TWA	233 mg/m3	
acetone (CAS 67-64-1)	STEL	2420 mg/m3	

Netherlands. OELs (binding)

Components	Type	Value	Form
Ethyl benzene (CAS 100-41-4)	TWA	1210 mg/m3	Respirable dust.
	STEL	430 mg/m3	
Silicon dioxide (CAS 14808-60-7)	TWA	215 mg/m3	
	TWA	0,075 mg/m3	
Talc (CAS 14807-96-6)	TWA	0,25 mg/m3	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	Respirable dust.
	TWA	210 mg/m3	

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	TLV	115 mg/m3	Total dust.
acetone (CAS 67-64-1)	TLV	25 ppm	
		295 mg/m3	
		125 ppm	
Carbon Black (CAS 1333-86-4)	TLV	3,5 mg/m3	
Ethyl benzene (CAS 100-41-4)	TLV	20 mg/m3	Respirable dust.
Silicon dioxide (CAS 14808-60-7)	TLV	5 ppm	
		0,3 mg/m3	
Styrene, monomer (CAS 100-42-5)	TLV	0,1 mg/m3	
		105 mg/m3	
Talc (CAS 14807-96-6)	TLV	25 ppm	Total dust.
		6 mg/m3	
Titanium dioxide (CAS 13463-67-7)	TLV	2 mg/m3	Respirable dust.
		5 mg/m3	
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	
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3	Total dust.	
acetone (CAS 67-64-1)	TWA	238 mg/m3		
	STEL	1800 mg/m3		
	TWA	600 mg/m3		
Carbon Black (CAS 1333-86-4)	TWA	4 mg/m3		
Ethyl benzene (CAS 100-41-4)	STEL	400 mg/m3		
Kaolin (CAS 1332-58-7)	TWA	200 mg/m3	Total dust.	
	TWA	10 mg/m3		
	TWA	2 mg/m3		
Silicon dioxide (CAS 14808-60-7)	STEL	0,3 mg/m3	Respirable dust.	
Styrene, monomer (CAS 100-42-5)				
Talc (CAS 14807-96-6)		TWA	50 mg/m3	Total dust.
	TWA	4 mg/m3		
		1 mg/m3		
Titanium dioxide (CAS 13463-67-7)	STEL	30 mg/m3	Respirable dust.	
Xylene (CAS 1330-20-7)	TWA	10 mg/m3		Total dust.
	TWA	100 mg/m3		

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

Components	Type	Value
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3

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

Components	Type	Value
		100 ppm
	TWA	238 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
		200 ppm
	TWA	442 mg/m3
		100 ppm
Xylene (CAS 1330-20-7)	STEL	442 mg/m3
		100 ppm
	TWA	221 mg/m3
		50 ppm

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

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	TWA	50 ppm	
acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Carbon Black (CAS 1333-86-4)	TWA	3,5 mg/m3	Fume.
Ethyl benzene (CAS 100-41-4)	STEL	125 ppm	
	TWA	100 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	
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
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3	
		100 ppm	
	TWA	238 mg/m3	
		50 ppm	
acetone (CAS 67-64-1)	TWA	1210 mg/m3	
		500 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	Inhalable fraction.
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
		200 ppm	
	TWA	442 mg/m3	
		100 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	
	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	

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

Components	Type	Value	Form
Xylene (CAS 1330-20-7)	TWA	10 mg/m3	
	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. Hotărâre 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
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3	
		100 ppm	
		238 mg/m3	
acetone (CAS 67-64-1)	TWA	50 ppm	
		1210 mg/m3	
		500 ppm	
Calcium carbonate (CAS 1317-65-3)	TWA	10 mg/m3	
Carbon Black (CAS 1333-86-4)	TWA	2 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
		200 ppm	
		442 mg/m3	
Styrene, monomer (CAS 100-42-5)	STEL	100 ppm	
		200 mg/m3	
		50 ppm	
Talc (CAS 14807-96-6)	TWA	90 mg/m3	
		20 ppm	
		2 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	2 mg/m3	Respirable fraction.
		10 mg/m3	Total
		5 mg/m3	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	
		100 ppm	
		221 mg/m3	
	TWA	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
2-Heptanone (CAS 110-43-0)	TWA	238 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	
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	

**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
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.
Xylene (CAS 1330-20-7)	TWA	221 mg/m3	
		50 ppm	

Spain. Occupational Exposure Limits

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	STEL	474 mg/m3	
	TWA	100 ppm	
		237 mg/m3	
acetone (CAS 67-64-1)	TWA	50 ppm	
		1210 mg/m3	
		500 ppm	
Carbon Black (CAS 1333-86-4)	TWA	3,5 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	884 mg/m3	
	TWA	200 ppm	
		441 mg/m3	Respirable fraction.
		100 ppm	
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	Respirable fraction.
Styrene, monomer (CAS 100-42-5)	STEL	172 mg/m3	
	TWA	40 ppm	
		86 mg/m3	
Talc (CAS 14807-96-6)	TWA	20 ppm	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	2 mg/m3	
		10 mg/m3	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	
	TWA	100 ppm	
		221 mg/m3	
		50 ppm	

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	STEL	250 mg/m3	
	TWA	50 ppm	
		120 mg/m3	
acetone (CAS 67-64-1)	STEL	25 ppm	
	TWA	1200 mg/m3	
		500 ppm	
Ethyl benzene (CAS 100-41-4)	STEL	600 mg/m3	
	TWA	250 ppm	
		450 mg/m3	
	TWA	100 ppm	Respirable dust.
		200 mg/m3	
		50 ppm	
Silicon dioxide (CAS 14808-60-7)	TWA	0,1 mg/m3	
Styrene, monomer (CAS 100-42-5)	STEL	86 mg/m3	
	TWA	20 ppm	
		43 mg/m3	Total dust.
		10 ppm	
Talc (CAS 14807-96-6)	TWA	2 mg/m3	
		1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	
Xylene (CAS 1330-20-7)	STEL	442 mg/m3	Total dust.

Sweden. Occupational Exposure Limit Values

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

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
2-Heptanone (CAS 110-43-0)	TWA	235 mg/m3	
acetone (CAS 67-64-1)	STEL	50 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	
Kaolin (CAS 1332-58-7)	TWA	50 ppm 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	
	TWA	40 ppm 85 mg/m3	
Talc (CAS 14807-96-6)	TWA	20 ppm 2 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	3 mg/m3	Respirable dust.
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
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3	
	TWA	100 ppm 237 mg/m3 50 ppm	
acetone (CAS 67-64-1)	STEL	3620 mg/m3	
	TWA	1500 ppm 1210 mg/m3	
Calcium carbonate (CAS 1317-65-3)	TWA	500 ppm 4 mg/m3	Respirable dust.
		4 mg/m3	Respirable.
		10 mg/m3	Inhalable dust.
		10 mg/m3	Inhalable
Carbon Black (CAS 1333-86-4)	STEL	7 mg/m3	
	TWA	3,5 mg/m3	
Ethyl benzene (CAS 100-41-4)	STEL	552 mg/m3	
	TWA	125 ppm 441 mg/m3	
Kaolin (CAS 1332-58-7)	TWA	100 ppm 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	
	TWA	250 ppm 430 mg/m3	

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Talc (CAS 14807-96-6)	TWA	100 ppm 1 mg/m3	Respirable dust.
Titanium dioxide (CAS 13463-67-7)	TWA	4 mg/m3	Respirable.
Xylene (CAS 1330-20-7)	STEL	10 mg/m3 441 mg/m3	Inhalable
	TWA	100 ppm 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
2-Heptanone (CAS 110-43-0)	STEL	475 mg/m3
	TWA	100 ppm 238 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
Xylene (CAS 1330-20-7)	STEL	100 ppm 442 mg/m3
	TWA	100 ppm 221 mg/m3 50 ppm

Biological limit values**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
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	*
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
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	*
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
acetone (CAS 67-64-1)	100 mg/l	Acétone	Urine	*
Ethyl benzene (CAS 100-41-4)	1500 mg/g	Acide mandélique	Creatinine in urine	*

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

Components	Value	Determinant	Specimen	Sampling time
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	Styrène	Venous blood	*
	0,02 mg/l	Styrène	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
acetone (CAS 67-64-1)	80 mg/l	Aceton	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	*
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
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	*
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
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	*
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	*
Xylene (CAS 1330-20-7)	1334 mg/g	Methylhippuric acids	Creatinine in urine	*
	2000 mg/l	Methylhippuric acids	Urine	*

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
	1,5 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
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 fenilgloxílico	Creatinine in urine	*
Styrene, monomer (CAS 100-42-5)	400 mg/g	Ácido mandélico más ácido fenilgloxílico	Creatinine in urine	*
	0,2 mg/l	Estireno	Venous 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
acetone (CAS 67-64-1)	80 mg/l	Aceton	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	*
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
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

2-Heptanone (CAS 110-43-0)	Can be absorbed through the skin.
Ethyl benzene (CAS 100-41-4)	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 fountain and emergency showers are recommended.

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	-94,7 °C (-138,46 °F) estimated
Initial boiling point and boiling range	56,05 °C (132,89 °F) estimated
Flash point	-20,0 °C (-4,0 °F) estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	2,6 % estimated
Flammability limit - upper (%)	12,8 % estimated
Vapour pressure	1123,25 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	465 °C (869 °F) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.

9.2. Other information

Density	13,11 lbs/gal
Percent volatile	32,28 %
Specific gravity	1,57
VOC	1,3 lbs/gal Material 1,9 lbs/gal Regulatory 156 g/l Material 231 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. 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	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
2-Heptanone (CAS 110-43-0)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	12600 mg/kg
Oral		
LD50	Mouse	730 mg/kg
	Rat	1,67 g/kg
acetone (CAS 67-64-1)		
<u>Acute</u>		
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
Carbon Black (CAS 1333-86-4)		
<u>Acute</u>		
Oral		
LD50	Rat	> 8000 mg/kg
Ethyl benzene (CAS 100-41-4)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	17800 mg/kg
Oral		
LD50	Rat	3500 mg/kg
Styrene, monomer (CAS 100-42-5)		
<u>Acute</u>		
Inhalation		
LC50	Mouse	4940 ppm, 2 Hours
	Rat	2770 ppm, 4 Hours 24 mg/l, 4 Hours

Components	Species	Test results
Oral		
LD50	Mouse	316 mg/kg
	Rat	1 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 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 Due to partial or complete lack of data the classification is not possible.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon Black (CAS 1333-86-4)	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.
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.

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 Harmful to aquatic life with long lasting effects.

Components	Species	Test results
2-Heptanone (CAS 110-43-0)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 126 - 137 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
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

Components			Species	Test results
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	
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)

2-Heptanone	1,98
acetone	-0,24
Ethyl benzene	3,15
Styrene, monomer	2,95
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.



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

acetone (CAS 67-64-1)

Ethyl benzene (CAS 100-41-4)

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)

Other EU regulations

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

2-Heptanone (CAS 110-43-0)

acetone (CAS 67-64-1)

Ethyl benzene (CAS 100-41-4)

Styrene, monomer (CAS 100-42-5)

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

2-Heptanone (CAS 110-43-0)

acetone (CAS 67-64-1)

Ethyl benzene (CAS 100-41-4)

Styrene, monomer (CAS 100-42-5)

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)

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. R20/22 Harmful by inhalation and if swallowed. R36 Irritating to eyes. R36/37/38 Irritating to eyes, respiratory system and skin. R36/38 Irritating to eyes and skin. R38 Irritating to skin. R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation. 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. H351 Suspected of causing cancer. H373 May cause damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects.
Revision information	None.
Training information	Follow training instructions when handling this material.
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available. The information contained herein is based on data believed to be reliable and the manufacturer disclaims any liability incurred from the use or reliance upon the same. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This safety information is not a licence to use this material as claimed by any patents of third parties. The user alone must finally determine whether a contemplated use of this material will infringe any such patents, and for obtaining any required licenses.