

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

1.1. Product identifier

Trade name or designation of the mixture 905 TR Mold Prep Cleaner
Registration number -
Synonyms None.
Product number TR 905
Issue date 07-July-2015
Version number 02
Revision date 08-December-2020
Supersedes date 07-July-2015

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

Identified uses Solvent.
Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

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

Physical hazards

Flammable liquids	Category 2	H225 - Highly flammable liquid and vapour.
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Health hazards

Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Reproductive toxicity (the unborn child)	Category 2	H361d - Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	Category 3 respiratory tract irritation	H335 - May cause respiratory irritation.
Specific target organ toxicity - single exposure	Category 3 narcotic effects	H336 - May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure	Category 2 (central nervous system)	H373 - May cause damage to organs (central nervous system) through prolonged or repeated exposure.
Aspiration hazard	Category 1	H304 - May be fatal if swallowed and enters airways.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard	Category 3	H412 - Harmful to aquatic life with long lasting effects.
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Hazard summary

May be ignited by heat, sparks or flames. Causes skin irritation. Causes serious eye irritation. Possible reproductive hazard. May cause irritation to the respiratory system. May cause drowsiness and dizziness. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Dangerous for the environment if discharged into watercourses. Occupational exposure to the substance or mixture may cause adverse health effects.

2.2. Label elements

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

Contains: 2-Butanone (Methyl ethyl ketone), Toluene

Hazard pictograms



Signal word Danger

Hazard statements

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs (central nervous system) through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist/vapours.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Response

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

Storage

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

Not assigned.

Supplemental label information None.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Toluene	50 - 52	108-88-3 203-625-9	01-2119471310-51-0147	601-021-00-3	#
Classification:	Flam. Liq. 2;H225, Asp. Tox. 1;H304, Skin Irrit. 2;H315, Eye Irrit. 2;H319, STOT SE 3;H336, Repr. 2;H361d, STOT RE 2;H373, Aquatic Chronic 3;H412				
2-Butanone (Methyl ethyl ketone)	48 - 50	78-93-3 201-159-0	01-2119457290-43-0066	606-002-00-3	#
Classification:	Flam. Liq. 2;H225, Eye Irrit. 2;H319, STOT SE 3;H335, STOT SE 3;H336				

List of abbreviations and symbols that may be used above

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

Composition comments

The full text for all H-statements is displayed in section 16.
All concentrations are in percent by weight unless otherwise indicated.

SECTION 4: First aid measures

General information

Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison centre or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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

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

SECTION 5: Firefighting measures

General fire hazards Highly 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. Cool containers exposed to flames with water until well after the fire is out.

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapours. 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 of the SDS.

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

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

6.3. Methods and material for containment and cleaning up Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains.

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

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

Never return spills to original containers for re-use.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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. Do not breathe mist/vapours. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Solvent.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List Components

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	MAK	295 mg/m ³
		100 ppm
Toluene (CAS 108-88-3)	STEL	590 mg/m ³
		200 ppm
Toluene (CAS 108-88-3)	MAK	190 mg/m ³
		50 ppm
Toluene (CAS 108-88-3)	STEL	380 mg/m ³
		100 ppm

Belgium. Exposure Limit Values Components

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³
		300 ppm
Toluene (CAS 108-88-3)	TWA	600 mg/m ³
		200 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m ³
		100 ppm
Toluene (CAS 108-88-3)	TWA	77 mg/m ³
		20 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	885 mg/m ³
	TWA	590 mg/m ³
Toluene (CAS 108-88-3)	STEL	384 mg/m ³
		100 ppm
Toluene (CAS 108-88-3)	TWA	192 mg/m ³
		50 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	MAC	600 mg/m ³
		200 ppm
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³

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

Components	Type	Value
Toluene (CAS 108-88-3)	MAC	300 ppm
		192 mg/m3
	STEL	50 ppm
		384 mg/m3
		100 ppm

Czech Republic. OELs. Government Decree 361 Components

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	Ceiling	900 mg/m3
	TWA	600 mg/m3
Toluene (CAS 108-88-3)	Ceiling	500 mg/m3
	TWA	200 mg/m3

Denmark. Exposure Limit Values Components

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	TLV	145 mg/m3
		50 ppm
Toluene (CAS 108-88-3)	TLV	94 mg/m3
		25 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
		600 mg/m3
Toluene (CAS 108-88-3)	STEL	200 ppm
		384 mg/m3
	TWA	100 ppm
		192 mg/m3
		50 ppm

Finland. Workplace Exposure Limits Components

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	300 mg/m3
		100 ppm
Toluene (CAS 108-88-3)	STEL	380 mg/m3
		100 ppm
	TWA	81 mg/m3
		25 ppm

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

Components	Type	Value	
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	VLE	900 mg/m3	
		Regulatory status: Regulatory binding (VRC)	
			300 ppm
	Regulatory status: Regulatory binding (VRC)		
		VME	600 mg/m3
	Regulatory status: Regulatory binding (VRC)		
		200 ppm	
Regulatory status: Regulatory binding (VRC)			

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

Components	Type	Value
Toluene (CAS 108-88-3)	VLE	384 mg/m3
Regulatory status:	Regulatory binding (VRC)	
		100 ppm
Regulatory status:	Regulatory binding (VRC)	
	VME	76,8 mg/m3
Regulatory status:	Regulatory binding (VRC)	
		20 ppm
Regulatory status:	Regulatory binding (VRC)	

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	TWA	600 mg/m3
		200 ppm
Toluene (CAS 108-88-3)	TWA	190 mg/m3
		50 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	AGW	600 mg/m3
		200 ppm
Toluene (CAS 108-88-3)	AGW	190 mg/m3
		50 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3
		200 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m3
		100 ppm
	TWA	192 mg/m3
		50 ppm

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m3
	TWA	600 mg/m3
Toluene (CAS 108-88-3)	STEL	380 mg/m3
	TWA	190 mg/m3

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	145 mg/m3
		50 ppm
Toluene (CAS 108-88-3)	STEL	188 mg/m3
		50 ppm
	TWA	94 mg/m3

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

Components	Type	Value
		25 ppm

Ireland. Occupational Exposure Limits

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³
	TWA	300 ppm 600 mg/m ³ 200 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m ³
	TWA	100 ppm 192 mg/m ³ 50 ppm

Italy. OELs

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³
	TWA	300 ppm 600 mg/m ³ 200 ppm
Toluene (CAS 108-88-3)	TWA	192 mg/m ³ 50 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³
	TWA	300 ppm 200 mg/m ³ 67 ppm
Toluene (CAS 108-88-3)	STEL	150 mg/m ³
	TWA	40 ppm 50 mg/m ³ 14 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³
	TWA	300 ppm 600 mg/m ³ 200 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m ³
	TWA	100 ppm 192 mg/m ³ 50 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³
	TWA	300 ppm 600 mg/m ³ 200 ppm

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

Components	Type	Value
Toluene (CAS 108-88-3)	STEL	384 mg/m ³
		100 ppm
	TWA	192 mg/m ³
		50 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³
		300 ppm
	TWA	600 mg/m ³
		200 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m ³
		100 ppm
	TWA	192 mg/m ³
		50 ppm

Netherlands. OELs (binding)

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³
		590 mg/m ³
	TWA	384 mg/m ³
		150 mg/m ³

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	TLV	220 mg/m ³
		75 ppm
Toluene (CAS 108-88-3)	TLV	94 mg/m ³
		25 ppm

Poland. Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³
		450 mg/m ³
Toluene (CAS 108-88-3)	STEL	200 mg/m ³
		100 mg/m ³

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³
		300 ppm
	TWA	600 mg/m ³
		200 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m ³
		100 ppm
	TWA	192 mg/m ³
		50 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	300 ppm
	TWA	200 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m3
		300 ppm
	TWA	600 mg/m3 200 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m3 100 ppm
		TWA

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	TWA	600 mg/m3 200 ppm
		TWA

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m3 300 ppm
		Toluene (CAS 108-88-3)

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
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	TWA	600 mg/m3 200 ppm
		Toluene (CAS 108-88-3)

Spain. Occupational Exposure Limits

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m3 300 ppm
		TWA
	Toluene (CAS 108-88-3)	STEL
TWA		

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	Ceiling	900 mg/m ³
		300 ppm
	TWA	150 mg/m ³ 50 ppm
Toluene (CAS 108-88-3)	Ceiling	384 mg/m ³
		100 ppm
	TWA	192 mg/m ³ 50 ppm

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	590 mg/m ³
		200 ppm
	TWA	590 mg/m ³ 200 ppm
Toluene (CAS 108-88-3)	STEL	760 mg/m ³
		200 ppm
	TWA	190 mg/m ³ 50 ppm

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	899 mg/m ³
		300 ppm
	TWA	600 mg/m ³ 200 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m ³
		100 ppm
	TWA	191 mg/m ³ 50 ppm

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

Components	Type	Value
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	STEL	900 mg/m ³
		300 ppm
	TWA	600 mg/m ³ 200 ppm
Toluene (CAS 108-88-3)	STEL	384 mg/m ³
		100 ppm
	TWA	192 mg/m ³ 50 ppm

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

Components	Value	Determinant	Specimen	Sampling Time
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	2,6 mg/g	methyl ethyl ketone	Creatinine in urine	*
	4,08 mmol/mol	methyl ethyl ketone	Creatinine in urine	*
Toluene (CAS 108-88-3)	2,5 g/g	Hippuric acid	Creatinine in urine	*

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

Components	Value	Determinant	Specimen	Sampling Time
	1 mg/g	o-cresol (Phenol, 2-methyl-)	Creatinine in urine	*
	1 mg/l	Toluene	Blood	*
	1,05 mmol/mol	o-cresol (Phenol, 2-methyl-)	Creatinine in urine	*
	1,58 mol/mol	Hippuric acid	Creatinine in urine	*
	20 ppm	Toluene	End-exhaled air	*
	10,85 umol/l	Toluene	Blood	*
	0,83 umol/l	Toluene	End-exhaled air	*

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

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

Components	Value	Determinant	Specimen	Sampling Time
Toluene (CAS 108-88-3)	1,6 µmol/mmol	o-Cresol (with hydrolysis)	Creatinine in urine	*
	1,5 mg/g	o-Cresol (with hydrolysis)	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
Toluene (CAS 108-88-3)	500 nmol/l	Toluene concentration	Blood	*

* - 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
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	2 mg/l	Méthyléthylcétone	Urine	*
Toluene (CAS 108-88-3)	2500 mg/g	Acide hippurique	Creatinine in urine	*
	2500 mg/g	Acide hippurique	Creatinine in urine	*
	1 mg/l	Toluène	Venous blood	*

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

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

Components	Value	Determinant	Specimen	Sampling Time
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	2 mg/l	2-Butanon	Urine	*
Toluene (CAS 108-88-3)	600 µg/l	Toluol	Blood	*
	1,5 mg/l	o-Kresol (nach Hydrolyse)	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
Toluene (CAS 108-88-3)	1 mg/g	o-cresol	Creatinine in urine	*
	1,05 µmol/mmol	o-cresol	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
Toluene (CAS 108-88-3)	600 µg/l	Toluene	Blood	*
	1600 mg/g	Hippuric acid	Creatinine in urine	*
	1,03 mg/g	o-cresol (Phenol, 2-methyl-)	Creatinine in urine	*
	2401 mg/l	Hippuric acid	Urine	*
	1,5 mg/l	o-cresol (Phenol, 2-methyl-)	Urine	*

* - 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
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	2 mg/l	Metiletilcetona	Urine	*
Toluene (CAS 108-88-3)	0,08 mg/l	Tolueno	Urine	*
	0,05 mg/l	Tolueno	Blood	*

* - 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
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	2 mg/l	2-Butanon (MEK)	Urine	*
Toluene (CAS 108-88-3)	600 µg/l	Toluol	Blood	*
	2 g/g	Hippursäure	Creatinine in urine	*
	0,5 mg/l	o-Kresol	Urine	*

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

UK. EH40 Biological Monitoring Guidance Values (BMGVs)

Components	Value	Determinant	Specimen	Sampling Time
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	70 umol/l	Butan-2-one	Urine	*

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

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

Exposure guidelines

EU Exposure Limit Values: Skin designation

Toluene (CAS 108-88-3) Can be absorbed through the skin.

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

2-Butanone (Methyl ethyl ketone) (CAS 78-93-3) Can be absorbed through the skin.
Toluene (CAS 108-88-3) Can be absorbed through the skin.

8.2. Exposure controls

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

Individual protection measures, such as personal protective equipment

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

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

Skin protection

- Hand protection	Wear suitable gloves tested to EN374. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Nitrile or neoprene gloves are recommended. Other suitable gloves can be recommended by the glove supplier.
- Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use filter type A2 according to EN 14387. Check with respiratory protective equipment suppliers.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Environmental exposure controls	Inform appropriate managerial or supervisory personnel of all environmental releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Liquid.
Form	Clear liquid.
Colour	Colourless.
Odour	Hydrocarbon.
Odour threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	> 79,4 °C (> 175 °F)
Flash point	0,8 °C (33,4 °F) Closed cup (Calculated)
Evaporation rate	> 1 (n-Butyl acetate=1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1,3
Flammability limit - upper (%)	11,5
Vapour pressure	> 22 mmHg
Vapour density	> 1 (Air=1)
Relative density	0,83 (Water=1)
Solubility(ies)	Partially soluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
9.2. Other information	No relevant additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Protect against direct sunlight. Contact with incompatible materials.

10.5. Incompatible materials	Strong oxidising agents. Amines. Ammonia. Caustics. Isocyanates.
10.6. Hazardous decomposition products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	May cause drowsiness and dizziness. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May be absorbed through the skin.
Eye contact	Causes serious eye irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

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

11.1. Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
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2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)

Acute

Dermal

LD50	Rat	6400 mg/kg
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Inhalation

Vapour

LC50	Rat	34,5 mg/l, 4 Hours
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Oral

LD50	Rat	2600 mg/kg
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Toluene (CAS 108-88-3)

Acute

Dermal

LD50	Rabbit	12200 mg/kg
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Inhalation

Vapour

LC50	Rat	28,1 mg/l, 4 Hours
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Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory sensitisation Based on available data, the classification criteria are not met.

Skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

IARC Monographs. Overall Evaluation of Carcinogenicity

Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
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Reproductive toxicity Suspected of damaging the unborn child.

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

Specific target organ toxicity - repeated exposure May cause damage to organs (central nervous system) through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

Mixture versus substance information No information available.

Other information Symptoms may be delayed.

SECTION 12: Ecological information

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

Components		Species	Test Results
2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Daphnia magna	5091 mg/l, 48 Hours
Fish	LC50	Pimephales promelas	3220 mg/l, 96 Hours
Toluene (CAS 108-88-3)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Daphnia magna	11,5 mg/l, 48 hours
Fish	LC50	Oncorhynchus kisutch	5,5 mg/l, 96 hours
<i>Chronic</i>			
Crustacea	NOEC	Ceriodaphnia dubia	0,74 mg/l, 7 days
Fish	NOEC	Oncorhynchus kisutch	1,4 mg/l, 40 days

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-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	0,29
Toluene (CAS 108-88-3)	2,73

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil The product is slightly soluble in water. Expected to have low mobility in soil.

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

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

12.7. Additional information

Estonia Dangerous substances in groundwater Data

2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	Pesticides (total) 0,5 ug/l
	Pesticides (total) 5 ug/l
Toluene (CAS 108-88-3)	TOLUENE 0,5 ug/l
	TOLUENE 50 ug/l

Estonia Dangerous substances in soil Data

2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)	Synthetic pesticides (total of active substances) 0,5 mg/kg
	Synthetic pesticides (total of active substances) 20 mg/kg
	Synthetic pesticides (total of active substances) 5 mg/kg
Toluene (CAS 108-88-3)	TOLUENE 0,1 mg/kg
	TOLUENE 100 mg/kg
	TOLUENE 3 mg/kg

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN1993
14.2. UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (TOLUENE, METHYL ETHYL KETONE)
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	UN1993
14.2. UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (TOLUENE, METHYL ETHYL KETONE)
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	UN1993
14.2. UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (TOLUENE, METHYL ETHYL KETONE)
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	UN1993
14.2. UN proper shipping name	Flammable liquid, n.o.s. (Toluene, Methyl ethyl ketone)
14.3. Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
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.

IMDG

14.1. UN number	UN1993
14.2. UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (TOLUENE, METHYL ETHYL KETONE)
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 applicable.

SECTION 15: Regulatory information

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

EU regulations

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

Not listed.

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

Not listed.

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

Not listed.

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

Not listed.

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

Not listed.

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

Not listed.

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

Toluene (CAS 108-88-3)

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

Not listed.

Authorisations

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

Not listed.

Restrictions on use

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

2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)

Toluene (CAS 108-88-3)

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

Not listed.

Other EU regulations

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

2-Butanone (Methyl ethyl ketone) (CAS 78-93-3)

Toluene (CAS 108-88-3)

Other regulations

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

National regulations

According to Directive 92/85/EEC as amended, pregnant women should not work with the product, if there is the least risk of exposure.

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

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

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

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

IATA: International Air Transport Association.

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

IMDG Code: International Maritime Dangerous Goods Code.

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

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

STEL: Short-Term Exposure Limit.

References

TWA: Time Weighted Average Value.

ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices

EPA: AQUIRE database

HSDB® - Hazardous Substances Data Bank

IARC Monographs. Overall Evaluation of Carcinogenicity

National Toxicology Program (NTP) Report on Carcinogens

Information on evaluation method leading to the classification of mixture

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

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

H225 Highly flammable liquid and vapour.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H361d Suspected of damaging the unborn child.

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

H412 Harmful to aquatic life with long lasting effects.

Training information

Follow training instructions when handling this material.

Disclaimer

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