

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

Trade name or designation of the mixture	SEALANT 19X-SF
Registration number	-
Synonyms	None.
Product code	800-0040
Issue date	14-February-2013
Version number	00
Revision date	14-February-2013
Supersedes date	-

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

Identified uses	Industrial Leak Sealant
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet**Supplier**

Company name	Team Industrial Services, Inc.
Address	Postbus 37 4380 AA Vlissingen 3237 The Netherlands
Telephone	+31 (0) 118 48 58 00 Fax +31 (0) 118 48 58 86
e-mail	Not available.
Contact person	Not available.

1.4. Emergency telephone number +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 Directive 67/548/EEC or 1999/45/EC as amended

Classification Repr. Cat. 3;R63, Xn;R48/20, Xi;R38, R67, R52/53

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

Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Reproductive toxicity (the unborn child)	Category 2	H361d - Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	Category 3 narcotic effects	H336 - May cause drowsiness or dizziness.
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.

Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1	
Hazardous to the aquatic environment, long-term aquatic hazard	Category 3	H412 - Harmful to aquatic life with long lasting effects.

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


Hazard summary

Physical hazards Not classified for physical hazards.

Health hazards	Irritating to skin. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of harm to the unborn child. Vapours may cause drowsiness and dizziness. Occupational exposure to the substance or mixture may cause adverse health effects.
Environmental hazards	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards	Causes skin irritation. May cause eye irritation. Prolonged or repeated contact may dry skin and cause dermatitis. Suspected of damaging the unborn child. Vapours may cause drowsiness and dizziness. When cured: Elevated temperatures or mechanical action may form dust and fumes which may be irritating to mucous membranes and respiratory tract.
Main symptoms	Irritation of eyes and mucous membranes. Symptoms include itching, burning, redness and tearing. Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure.

2.2. Label elements

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

Contains:	Toluene
Hazard pictograms	
Signal word	Warning
Hazard statements	H315 - Causes skin irritation. H361d - Suspected of damaging the unborn child. H373 - May cause damage to organs (Central nervous system) through prolonged or repeated exposure. H336 - May cause drowsiness or dizziness. H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention	P201 - Obtain special instructions before use. P260 - Do not breathe gas/mist/vapours/spray. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Response	P308 + P313 - IF exposed or concerned: Get medical advice/attention.
Storage	P405 - Store locked up.
Disposal	P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information Not applicable.

2.3. Other hazards Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Aluminium hydroxide	25-50	21645-51-2 244-492-7	-	-	
Classification:	DSD: -				
	CLP: -				
Aluminium oxide	25-50	1344-28-1 215-691-6	-	-	
Classification:	DSD: -				
	CLP: -				
Dichlorodimethylsilane polymer with dichlorodiphenylsilane, trichloromethylsilane and trichlorophenylsilane	10-25	28630-33-3 -	-	-	
Classification:	DSD: -				
	CLP: -				

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Graphite	10-25	7782-42-5 231-955-3	-	-	
Classification:	DSD:	-			
	CLP:	-			
Toluene	10-25	108-88-3 203-625-9	-	601-021-00-3	#
Classification:	DSD:	F;R11, Repr. Cat. 3;R63, Xn;R65-48/20, Xi;R38, R67			
	CLP:	Flam. Liq. 2;H225, Asp. Tox. 1;H304, Skin Irrit. 2;H315, STOT SE 3;H336, Repr. 2;H361d, STOT RE 2;H373			
Carbon	<5	7440-44-0 231-153-3	-	-	
Classification:	DSD:	-			
	CLP:	-			
Dicumyl peroxide	<5	80-43-3 201-279-3	-	617-006-00-X	
Classification:	DSD:	O;R7, Xi;R36/38, N;R51/53			
	CLP:	Org. Perox. F;H242, Skin Irrit. 2;H315, Eye Irrit. 2;H319, Aquatic Chronic 2;H411			

DSD: Directive 67/548/EEC.

CLP: Regulation No. 1272/2008.

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

Composition comments All concentrations are in percent by weight. The full text for all R- and H-phrases is displayed in section 16.

SECTION 4: First aid measures

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation Move to fresh air. Get medical attention if any discomfort occurs.

Skin contact Remove contaminated clothing and shoes. Flush thoroughly with water for at least 15 minutes. If irritation occurs, get medical assistance.

Eye contact Flush thoroughly with water for at least 15 minutes. Get medical attention if irritation develops or persists.

Ingestion Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Only induce vomiting at the instruction of medical personnel. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed Coughing. Irritation of eyes and mucous membranes. Symptoms include itching, burning, redness, and tearing of eyes.

4.3. Indication of any immediate medical attention and special treatment needed Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure.

SECTION 5: Firefighting measures

General fire hazards Solid containing flammable liquid.

5.1. Extinguishing media

Suitable extinguishing media Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media No restrictions known.

5.2. Special hazards arising from the substance or mixture Solvent vapours may form explosive mixtures with air. By heating and fire, corrosive vapours/gases 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. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Special fire fighting procedures	In the event of fire, cool tanks with water spray. Move containers from fire area if you can do it without risk.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Ventilate closed spaces before entering. Avoid inhalation of vapours and contact with skin and eyes. Wear appropriate protective equipment and clothing during clean-up. See Section 8 for personal protective equipment.
For emergency responders	Use personal protection recommended in Section 8 of the MSDS.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Stop the flow of material, if this is without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After removal flush contaminated area thoroughly with water.

Never return spills to original containers for re-use. This material and its container must be disposed of as hazardous waste.

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

Pregnant or breastfeeding women must not handle this product. Avoid inhalation of vapours and contact with skin and eyes. Use only with adequate ventilation. Wear approved safety goggles. Wear protective gloves and appropriate clothing to prevent skin contact. Avoid generation and spreading of dust. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Industrial Leak Sealant

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	MAK	5 mg/m ³	Respirable fraction.
	STEL	10 mg/m ³	Inhalable fraction.
		20 mg/m ³	Inhalable fraction.
Aluminium oxide (CAS 1344-28-1)	MAK	10 mg/m ³	Respirable fraction.
		5 mg/m ³	Respirable fume.
		5 mg/m ³	Respirable fraction.
	STEL	10 mg/m ³	Inhalable fraction.
		20 mg/m ³	Inhalable fraction.
Carbon (CAS 7440-44-0)	MAK	10 mg/m ³	Respirable fume.
		10 mg/m ³	Respirable fraction.
		5 mg/m ³	Respirable dust.
Graphite (CAS 7782-42-5)	MAK	10 mg/m ³	Respirable dust.
		5 mg/m ³	Respirable dust.
Toluene (CAS 108-88-3)	MAK	10 mg/m ³	Respirable dust.
		190 mg/m ³	
	STEL	50 ppm	
		380 mg/m ³	
		100 ppm	

Belgium. Exposure Limit Values.

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.
Carbon (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable fraction.

Belgium. Exposure Limit Values.

Components	Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable fraction.
Toluene (CAS 108-88-3)	STEL	384 mg/m ³	
	TWA	100 ppm 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	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m ³	Dust.
Carbon (CAS 7440-44-0)	TWA	1,5 mg/m ³	Respirable fraction.
Graphite (CAS 7782-42-5)	TWA	5 mg/m ³	Inhalable fraction.
Toluene (CAS 108-88-3)	STEL	384 mg/m ³	
	TWA	192 mg/m ³	

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

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	10 mg/m ³	
Graphite (CAS 7782-42-5)	TWA	10 mg/m ³	
Toluene (CAS 108-88-3)	TWA	375 mg/m ³ 100 ppm	

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	0,1 mg/m ³	Respirable dust.
Carbon (CAS 7440-44-0)	TWA	10 mg/m ³	Respirable dust.
		10 mg/m ³	Total dust.
Graphite (CAS 7782-42-5)	TWA	10 mg/m ³	Respirable dust.
		10 mg/m ³	Total dust.
Toluene (CAS 108-88-3)	Ceiling	500 mg/m ³	
	TWA	200 mg/m ³	

Denmark. Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TLV	5 mg/m ³	Total
Carbon (CAS 7440-44-0)	TLV	2 mg/m ³	Respirable.
Graphite (CAS 7782-42-5)	TLV	2,5 mg/m ³	Respirable.
Toluene (CAS 108-88-3)	TLV	2,5 mg/m ³ 94 mg/m ³ 25 ppm	Respirable.

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

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Respirable dust.
Carbon (CAS 7440-44-0)	TWA	10 mg/m ³	Total dust.
Graphite (CAS 7782-42-5)	TWA	3 mg/m ³	Dust.
Toluene (CAS 108-88-3)	STEL	5 mg/m ³	Dust.
		384 mg/m ³ 100 ppm	
	TWA	192 mg/m ³ 50 ppm	

Finland. Workplace Exposure Limits

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	2 mg/m ³	
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	
Toluene (CAS 108-88-3)	STEL	380 mg/m ³	

Finland. Workplace Exposure Limits

Components	Type	Value
	TWA	100 ppm 81 mg/m ³ 25 ppm

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

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	VME	10 mg/m ³	
Carbon (CAS 7440-44-0)	VME	2 mg/m ³	Respirable fraction.
Graphite (CAS 7782-42-5)	VME	2 mg/m ³	Respirable fraction.
Toluene (CAS 108-88-3)	VLE	384 mg/m ³ 100 ppm	
	VME	76,8 mg/m ³ 20 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	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	4 mg/m ³	Inhalable dust.
Aluminium oxide (CAS 1344-28-1)	TWA	1,5 mg/m ³ 4 mg/m ³	Respirable dust. Inhalable dust.
Carbon (CAS 7440-44-0)	TWA	1,5 mg/m ³ 4 mg/m ³	Respirable dust. Inhalable fraction.
Graphite (CAS 7782-42-5)	TWA	1,5 mg/m ³ 4 mg/m ³	Respirable fraction. Inhalable fraction.
Toluene (CAS 108-88-3)	TWA	1,5 mg/m ³ 190 mg/m ³ 50 ppm	Respirable fraction.

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

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	AGW	3 mg/m ³	Respirable fraction.
Aluminium oxide (CAS 1344-28-1)	AGW	10 mg/m ³ 3 mg/m ³	Inhalable fraction. Respirable fraction.
Carbon (CAS 7440-44-0)	AGW	10 mg/m ³ 3 mg/m ³	Inhalable fraction. Respirable fraction.
Graphite (CAS 7782-42-5)	AGW	10 mg/m ³ 3 mg/m ³	Inhalable fraction. Respirable fraction.
Toluene (CAS 108-88-3)	AGW	10 mg/m ³ 190 mg/m ³ 50 ppm	Inhalable fraction.

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

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m ³	Inhalable
Carbon (CAS 7440-44-0)	TWA	10 mg/m ³ 5 mg/m ³	Respirable. Respirable.
Graphite (CAS 7782-42-5)	TWA	10 mg/m ³ 5 mg/m ³	Inhalable Respirable.
Toluene (CAS 108-88-3)	STEL	10 mg/m ³ 560 mg/m ³ 150 ppm	Inhalable
	TWA	375 mg/m ³ 100 ppm	

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	6 mg/m ³	Respirable.
Toluene (CAS 108-88-3)	STEL	380 mg/m ³	
	TWA	190 mg/m ³	

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

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m ³	
Carbon (CAS 7440-44-0)	TWA	5 mg/m ³	Total dust.
		2,5 mg/m ³	Respirable dust.
Graphite (CAS 7782-42-5)	TWA	5 mg/m ³	Total dust.
		2,5 mg/m ³	Respirable dust.
Toluene (CAS 108-88-3)	STEL	188 mg/m ³	
		50 ppm	
	TWA	94 mg/m ³	
		25 ppm	

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total inhalable dust.
Carbon (CAS 7440-44-0)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total inhalable dust.
Graphite (CAS 7782-42-5)	TWA	4 mg/m ³	Respirable dust.
		10 mg/m ³	Total inhalable dust.
Toluene (CAS 108-88-3)	STEL	384 mg/m ³	
		100 ppm	
	TWA	192 mg/m ³	
		50 ppm	

Italy. OELs

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	1 mg/m ³	Respirable fraction.
Aluminium oxide (CAS 1344-28-1)	TWA	1 mg/m ³	Respirable fraction.
Carbon (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable fraction.
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Respirable fraction.
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	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	6 mg/m ³	
Aluminium oxide (CAS 1344-28-1)	TWA	6 mg/m ³	Decomposition aerosol.
		4 mg/m ³	
Carbon (CAS 7440-44-0)	TWA	2 mg/m ³	Dust.
Graphite (CAS 7782-42-5)	TWA	2 mg/m ³	Dust.
Toluene (CAS 108-88-3)	STEL	150 mg/m ³	
		40 ppm	
	TWA	50 mg/m ³	
		14 ppm	

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

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	6 mg/m ³	
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m ³	Inhalable fraction.

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

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	2 mg/m ³	Respirable fraction.
Graphite (CAS 7782-42-5)	TWA	3 mg/m ³	Dust.
Toluene (CAS 108-88-3)	STEL	384 mg/m ³	Dust.
	TWA	100 ppm	
		192 mg/m ³	
		50 ppm	

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

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

Netherlands. OELs (binding)

Components	Type	Value
Toluene (CAS 108-88-3)	STEL	384 mg/m ³
	TWA	150 mg/m ³

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TLV	10 mg/m ³	
Carbon (CAS 7440-44-0)	TLV	2 mg/m ³	Respirable dust.
Graphite (CAS 7782-42-5)	TLV	10 mg/m ³	Total dust.
Toluene (CAS 108-88-3)	TLV	2 mg/m ³	Respirable dust.
		10 mg/m ³	Total dust.
		94 mg/m ³	
		25 ppm	

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

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	2,5 mg/m ³	Fume, total dust.
		1,2 mg/m ³	Respirable dust and/or fume.
Aluminium oxide (CAS 1344-28-1)	TWA	2,5 mg/m ³	Fume, total dust.
		1,2 mg/m ³	Respirable dust and/or fume.
Carbon (CAS 7440-44-0)	TWA	4 mg/m ³	Total dust.
Graphite (CAS 7782-42-5)	TWA	1 mg/m ³	Respirable dust.
		4 mg/m ³	Total dust.
		1 mg/m ³	Respirable dust.
Toluene (CAS 108-88-3)	STEL	200 mg/m ³	
	TWA	100 mg/m ³	

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

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

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

Components	Type	Value
		50 ppm

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

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m3	
Carbon (CAS 7440-44-0)	TWA	2 mg/m3	Respirable fraction.
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable fraction.

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

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	STEL	5 mg/m3	Aerosol
		1,2 ppm	Aerosol
		2 mg/m3	Aerosol
Toluene (CAS 108-88-3)	STEL	0,5 ppm	Aerosol
		384 mg/m3	
		100 ppm	
	TWA	192 mg/m3	
		50 ppm	

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

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	4 mg/m3	Inhalable fraction.
		1,5 mg/m3	Respirable fraction.
		4 mg/m3	Inhalable fraction.
Aluminium oxide (CAS 1344-28-1)	TWA	1,5 mg/m3	Respirable fraction.
		0,1 mg/m3	
		2 mg/m3	Respirable fraction.
Carbon (CAS 7440-44-0)	TWA	10 mg/m3	Total
Graphite (CAS 7782-42-5)	TWA	2 mg/m3	Respirable fraction.
		10 mg/m3	Total
		192 mg/m3	
Toluene (CAS 108-88-3)	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
Toluene (CAS 108-88-3)	TWA	192 mg/m3
		50 ppm

Spain

Components	Type	Value	Form
Graphite (CAS 7782-42-5)	TWA (VLA-ED)	2 mg/m3	Dust.

Spain. Occupational Exposure Limits

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	10 mg/m3	
		2 mg/m3	Dust.
Carbon (CAS 7440-44-0)	TWA	384 mg/m3	
		100 ppm	
		192 mg/m3	
Toluene (CAS 108-88-3)	STEL	50 ppm	

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	5 mg/m3	Total dust.
		2 mg/m3	Respirable dust.

Sweden. Occupational Exposure Limit Values

Components	Type	Value	Form
Carbon (CAS 7440-44-0)	TWA	0,2 fibers/mL 5 mg/m ³	Total dust.
Graphite (CAS 7782-42-5)	TWA	0,2 fibers/mL 5 mg/m ³	Total dust.
Toluene (CAS 108-88-3)	STEL	384 mg/m ³ 100 ppm	
	TWA	192 mg/m ³ 50 ppm	

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	TWA	3 mg/m ³	Respirable dust.
Aluminium oxide (CAS 1344-28-1)	STEL	24 mg/m ³	Fume and respirable dust.
	TWA	3 mg/m ³	Fume and respirable dust.
Carbon (CAS 7440-44-0)	TWA	3 mg/m ³ 5 mg/m ³	Respirable dust. Inhalable dust.
Graphite (CAS 7782-42-5)	TWA	2,5 mg/m ³ 5 mg/m ³	Respirable dust. Inhalable dust.
Toluene (CAS 108-88-3)	STEL	2,5 mg/m ³ 760 mg/m ³	Respirable dust.
	TWA	200 ppm 190 mg/m ³ 50 ppm	

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Aluminium oxide (CAS 1344-28-1)	TWA	4 mg/m ³	Respirable dust.
Carbon (CAS 7440-44-0)	TWA	10 mg/m ³ 4 mg/m ³	Inhalable dust. Respirable dust.
Toluene (CAS 108-88-3)	STEL	10 mg/m ³ 384 mg/m ³	Inhalable dust.
	TWA	100 ppm 191 mg/m ³ 50 ppm	

United Kingdom

Components	Type	Value	Form
Graphite (CAS 7782-42-5)	TWA	4 mg/m ³ 10 mg/m ³	Respirable dust. Inhalable dust.

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

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

Biological limit values**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
Toluene (CAS 108-88-3)	2500 mg/g	Acide hippurique	Creatinine in urine	*

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

Components	Value	Determinant	Specimen	Sampling time
	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
Aluminium hydroxide (CAS 21645-51-2)	200 µg/l	Aluminium	Urine	*
	200 micrograms/liter	Aluminium	Urine	*
Aluminium oxide (CAS 1344-28-1)	200 micrograms/liter	Aluminium	Urine	*
Toluene (CAS 108-88-3)	3 mg/l	o-Kresol	Urine	*
	1 mg/l	Toluol	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
Toluene (CAS 108-88-3)	1 mg/g	o-crezol	Creatinine in 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
Toluene (CAS 108-88-3)	1,6 g/g	Ácido hipúrico	Creatinine in urine	*
	0,5 mg/l	o-cresol (Phenol, 2-methyl-)	Urine	*
	0,05 mg/l	Tolueno	Blood	*

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

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

Components	Value	Specimen	Sampling time
Toluene (CAS 108-88-3)	2 g/g	Creatinine in urine	*
	0,5 mg/l	Urine	*
	600 micrograms/liter	Blood	*

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

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no-effect level (DNEL)

Components	Type	Route	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	Workers	Inhalation	3,59 mg/m ³	Long term exposure local effects
Aluminium oxide (CAS 1344-28-1)	Workers	Inhalation	15,63 mg/m ³	Long term exposure local effects
Dicumyl peroxide (CAS 80-43-3)	Workers	Dermal	2 mg/kg	Long term exposure systemic effects
		Inhalation	1,4 mg/m ³	Long term exposure systemic effects
Graphite (CAS 7782-42-5)	Workers	Inhalation	1,2 mg/m ³	Long term exposure local effects
Toluene (CAS 108-88-3)	Workers	Dermal	384 mg/kg/day	Long term Systemic effects
		Inhalation	384 mg/m ³	Acute Local effects
		Inhalation	384 mg/m ³	Acute Systemic effects
		Inhalation	192 mg/m ³	Long term Local effects

Components	Type	Route	Value	Form
		Inhalation	192 mg/m ³	Long term Systemic effects

Predicted no effect concentrations (PNECs)

Components	Type	Route	Value	Form
Aluminium hydroxide (CAS 21645-51-2)	Aqua (freshwater)	Not applicable	74,9 µg/l	
	STP	Not applicable	20 mg/l	
Aluminium oxide (CAS 1344-28-1)	Aqua (freshwater)	Not applicable	74,9 µg/l	
	Sewage Treatment Plant	Not applicable	20 mg/l	
Dicumyl peroxide (CAS 80-43-3)	Aqua (freshwater)	Not applicable	0,0023 mg/l	
	Sediment (freshwater)	Not applicable	2,2 mg/l	
	Sewage Treatment Plant	Not applicable	100 mg/l	
Toluene (CAS 108-88-3)	Soil	Not applicable	0,44 mg/kg	
	Aqua (freshwater)	Not applicable	0,68 mg/l	
	Aqua (intermittent releases)	Not applicable	0,68 mg/l	
	Aqua (marine water)	Not applicable	0,68 mg/l	
	Sediment (freshwater)	Not applicable	16,39 mg/kg	
	Sediment (marine water)	Not applicable	16,39 mg/kg	
	Sewage Treatment Plant	Not applicable	13,61 mg/l	
	Soil	Not applicable	2,89 mg/kg	

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of vapours.

Individual protection measures, such as personal protective equipment

General information

Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection

Wear approved safety goggles.

Skin protection

- Hand protection

Wear protective gloves. Polyvinyl alcohol gloves are recommended. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

- Other

Wear appropriate clothing to prevent possibility of skin contact.

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

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. Private clothes and working clothes should be kept separately.

Environmental exposure controls

Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Black pliable semi-solid with solvent odor.
Physical state	Solid.
Form	Pliable semi-solid.
Colour	Black.
Odour	Solvent.
Odour threshold	0,5 - 23 ppm (Toluene)
pH	Not applicable.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.

Flash point	96,1 °C (205 °F)
Evaporation rate	1 (Butyl acetate=1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1,2
Flammability limit - upper (%)	7
Vapour pressure	6,0 mm Hg @ 20 °C
Vapour density	Not applicable.
Relative density	0,9
Solubility(ies)	Negligible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	> 648,89 °C (> 1200 °F) (When cured)
Decomposition temperature	Not available.
Viscosity	Not applicable.
Explosive properties	Not available.
Oxidizing properties	Not available.
9.2. Other information	No relevant additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is 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	Hazardous polymerisation does not occur.
10.4. Conditions to avoid	Flames and sparks.
10.5. Incompatible materials	Strong oxidising agents.
10.6. Hazardous decomposition products	Aluminum oxides. Carbon oxides. Silicon oxides.

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Ingestion	May cause discomfort if swallowed.
Inhalation	Vapours may cause drowsiness and dizziness.
Skin contact	Causes skin irritation. Prolonged or repeated contact may dry skin and cause dermatitis. Components of the product may be absorbed into the body through the skin.
Eye contact	May cause eye irritation.

Symptoms Irritation of eyes and mucous membranes. Symptoms include itching, burning, redness and tearing. Skin irritation.

11.1. Information on toxicological effects

Acute toxicity May cause discomfort if swallowed. Vapours may cause drowsiness and dizziness.

Components	Species	Test results
Dicumyl peroxide (CAS 80-43-3)		
Acute		
<i>Oral</i>		
LD50	Rat	4100 mg/kg
Toluene (CAS 108-88-3)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	14,1 ml/kg
<i>Inhalation</i>		
LC50	Rat	49000 mg/m ³ , 4 Hours
<i>Oral</i>		
LD50	Rat	636 mg/kg

Skin corrosion/irritation	Causes skin irritation. Prolonged or repeated contact may dry skin and cause dermatitis.
Serious eye damage/irritation	May cause eye irritation.
Respiratory sensitisation	Not classified.
Skin sensitisation	Not a skin sensitiser.
Germ cell mutagenicity	Not available.
Carcinogenicity	Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Toluene (CAS 108-88-3) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure: Central nervous system.
Aspiration hazard	Not classified.
Mixture versus substance information	Not available.
Other information	Not available.

SECTION 12: Ecological information

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

Components	Species	Test results
Toluene (CAS 108-88-3)		
Aquatic		
Crustacea	EC50 Water flea (Daphnia magna)	5,46 - 9,83 mg/l, 48 hours
Fish	LC50 Coho salmon, silver salmon (Oncorhynchus kisutch)	5,5 mg/l, 96 hours

12.2. Persistence and degradability The product contains inorganic compounds which are not biodegradable.

12.3. Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient n-octanol/water (log Kow)

Toluene (CAS 108-88-3)	2,73
Dicumyl peroxide (CAS 80-43-3)	5,5

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Not available.

Mobility in general The product contains substances which are insoluble in water and which sediment in water systems. The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

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

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.
EU waste code	08 04 09*
Disposal methods/information	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

SECTION 14: Transport information

ADR

14.1. UN number	UN1325
14.2. UN proper shipping name	Flammable solid, organic, n.o.s. (Toluene)

14.3. Transport hazard class(es)	4.1
Subsidiary class(es)	-
14.4. Packing group	III
14.5. Environmental hazards	No
Tunnel restriction code	Not available.
Labels required	4.1
14.6. Special precautions for user	Not available.

RID

14.1. UN number	UN1325
14.2. UN proper shipping name	Flammable solid, organic, n.o.s. (Toluene)
14.3. Transport hazard class(es)	4.1
Subsidiary class(es)	-
14.4. Packing group	III
14.5. Environmental hazards	No
Labels required	4.1
14.6. Special precautions for user	Not available.

ADN

14.1. UN number	UN1325
14.2. UN proper shipping name	Flammable solid, organic, n.o.s. (Toluene)
14.3. Transport hazard class(es)	4.1
Subsidiary class(es)	-
14.4. Packing group	III
14.5. Environmental hazards	No
Labels required	4.1
14.6. Special precautions for user	Not available.

IATA

14.1. UN number	UN1325
14.2. UN proper shipping name	Flammable solid, organic, n.o.s. (Toluene)
14.3. Transport hazard class(es)	4.1
Subsidiary class(es)	-
14.4. Packing group	III
14.5. Environmental hazards	No
Labels required	Not available.
ERG Code	3L
14.6. Special precautions for user	Not available.

IMDG

14.1. UN number	UN1325
14.2. UN proper shipping name	Flammable solid, organic, n.o.s. (Toluene)
14.3. Transport hazard class(es)	4.1
Subsidiary class(es)	-
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	No
Labels required	Not available.
EmS	F-A, S-G
14.6. Special precautions for user	Not available.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

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

Not listed.

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

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

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(1) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 143/2011 Annex XIV Substances Subject to Authorisation

Not listed.

Restrictions on use

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

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

Not regulated.

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

Toluene (CAS 108-88-3)

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not regulated.

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

Dicumyl peroxide (CAS 80-43-3)

Toluene (CAS 108-88-3)

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

Toluene (CAS 108-88-3)

Other regulations

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

National regulations

Young people under 18 years old are not allow to work with this product according to the EU Directive 94/33/EC on the protection of young people at work. Pregnant women should not work with the product, if there is the least risk of exposure. 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

DNEL: Derived No-Effect Level.
PNEC: Predicted No-Effect Concentration. PBT: Persistent, bioaccumulative and toxic. vPvB: Very Persistent and very Bioaccumulative. DSD: Directive 67/548/EEC.
CLP: Regulation No. 1272/2008.

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

R7 May cause fire.
R11 Highly flammable.
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.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63 Possible risk of harm to the unborn child.
R65 Harmful: may cause lung damage if swallowed.
R67 Vapours may cause drowsiness and dizziness.
H225 - Highly flammable liquid and vapour.
H242 - Heating may cause a fire.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H319 - Causes serious eye 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.
H411 - Toxic to aquatic life with long lasting effects.

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.