SECTION 1: Identification of the substance/mixture and of the company/undertaking		
1.1	**Product identifier**	
	Trade name:	**KAPROLAKTAM**
	International chemical name / CAS Number	ε-caprolactam, hexano-6-lactam/105-60-2
	Identification number:	613-069-00-2
	Registration number:	01-2119457029-36-0009
1.2	**Relevant identified uses of the substance or mixture and uses advised against**	
	Identified uses	**Uses by workers in industrial settings**
	1	Manufacture/import of Caprolactam
	2	Distribution of Caprolactam
	3	Industrial formulation of solid preparations
	4	Formulation of liquid preparations (industrial)
	5	Use as intermediate
	6	Use as monomer for polyamide, polymers, thermoplastics
	7	Use as monomer for resins
	8	Use as monomer for thermo hardened resins
	9	Use as plasticizer for polyamide
	10	Use in leather tanning, finishing, impregnation, coatings and paints
		Uses by professional workers
	11	Use as laboratory chemical
	4	Formulation of liquid preparations (professional)
		Uses by users
	12	Use in coatings/paints (consumer)
	Uses advised against:	None known
1.3	**Details of the supplier of the safety data sheet**	
	Manufacturer:	SPOLANA a.s.
	Registered office:	SPOLANA a.s., ul.Práce 657, 277 11 Neratovice
	Company ID:	451 47 787
	Telephone:	Tel: +420 315 662 555 Fax: +420 315 666 633
	Competent person responsible:	Tel: +420 315 662 555 Mail: reach@spolana.cz
1.4	**Emergency telephone number** Klinika pracovního lékařství VFN a 1. LF UK Toxikologické informační středisko Na Bojišti 1, 120 00, Praha 2 Tel: +420 224 919 293, +420 224 915 402 E-mail:tis@vfn.cz Information only for health risks - acute poisoning of humans and animals	

SECTION 2: Hazards identification		
	Classification of the substance:	Substance is classified: Acute toxicity inhalation and oral (Hazard Category 4) Serious eye damage/eye irritation, Hazard Category 2 Skin corrosion/irritation, Hazard Category 2 Specific target organ toxicity — Single exposure, Hazard Category 3, Respiratory tract irritation

	Dangerous health effects:	Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.	
	Dangerous environmental effects:	The substance does not meet classification criteria.	
2.1	**Classification of the substance or mixture**		
	Classification according to (EC) 1272/2008:	Codes for hazard classes and categories	Acute Tox. 4 (Inhalation – dust) Acute Tox. 4 (Oral) Skin Irrit. 2 Eye Irrit. 2 STOT SE 3 (Irritating to respiratory system)
		Hazard Codes phrase	H332, H302, H319, H335, H315
2.2	**Label elements**		
	Hazard pictogram(s):	 GHS07	
	Signal word:	Warning	
	Hazard statement(s):	H319 Causes serious eye irritation. H315 Causes skin irritation. H332 Harmful if inhaled. H302 Harmful if swallowed. H335 May cause respiratory irritation.	
	Precautionary statement(s):	P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P301 + P330 IF SWALLOWED: rinse mouth. P403 + P233 Store in a well-ventilated place. Keep container tightly closed.	
2.3	**Other hazards** None known		

SECTION 3: Composition/information on ingredients

3.1	**Substances**				
	The major component identifier:	Name.	*ε-caprolactam (approx. 100 %)*		
		Identification number:	Index number	CAS number	EC number
			613-069-00-2	105-60-2	203-313-2
	The major component identifier:	Name.			
		Identification number:	Index number	CAS number	EC number

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice:

Avoid contact with the skin, eyes and clothing. Immediately remove contaminated clothing.

Securing the safety of both the victim and the rescuer is a priority when administering first aid!

General first aid principles:

In life threatening situations the administration of resuscitation is a priority

The victim does not breathe- administer artificial respiration immediately

Heart arrest - administer cardiac massage immediately

Unconsciousness - put the victim in a stabilized position on his/her side

	Inhalation:	Stop exposure immediately, take the victim out to the fresh air. (Watch out for contaminated clothes.) Protect the victim from getting cold. Seek medical attention
	Skin contact:	Take off contaminated clothes. Rinse affected areas with plenty of ideally lukewarm water. Soap can be used only if the skin is not affected (injured). Burns caused by molten material require hospital treatment.
	Eye contact:	Immediately rinse the eyes with a stream of running water; open the lids with your fingers (even forcibly), remove contact lens, if any. Rinse the eyes for at least 15 minutes. Consult an eye specialist.
	Ingestion:	Rinse mouth immediately and then drink plenty of water. Do not induce vomiting! Administer medicinal coal, if possible. Seek medical treatment immediately.
4.2	**Most important symptoms and effects, both acute and delayed** Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.	
	Inhalation:	
	Skin contact:	
	Eye contact:	
	Ingestion:	
4.3	**Indication of any immediate medical attention and special treatment needed** Treat according to symptoms (decontamination, vital functions), no known specific antidote. In life threatening situations the administration of resuscitation is a priority (section 4.1)	

SECTION 5: Firefighting measures		
5.1	**Extinguishing media**	
	Suitable extinguishing media	SMALL VOLUMES: Water spray, water, foam, carbon dioxide and dry powder extinguishers, or sand or soil. When water is used, the extensive solubility of kaprolaktam in water must be considered as well as the subsequent running of these aqueous solutions. LARGE VOLUMES: Dry powder, heavy or medium-heavy foam or the stream of water in the form of fine mist. Fire fighting: Remove containers from the fire area, providing it can be done safely. Use suitable extinguishing media. Stand on the windward side of the fire and out of low-situated places.Cool the containers with water mist as long as the risk of fire is present. The mixture of caprolactam dust with air may ignite or explode. Its vapors in the mixture with air are explosive.
	Unsuitable extinguishing media:	None known.
5.2	**Special hazards arising from the substance or mixture** These substances/groups of substances mentioned can be released in case of fire: Hydrogen cyanide, carbon oxides, nitrogen oxides Do not inhale substance vapors or combustion products. Use an isolation respirator to protect the respiratory system. Kaprolaktam contained in melt sublimes easily and its vapors mix with air to form an explosive mixture. The vapors are heavier than air. The vapors may become accumulated in the pits and hollows in the ground and thus penetrate the areas lying under the ground level.	
5.3	**Advice for firefighters** Use an isolation respirator to protect the respiratory system. Thermal decomposition may produce toxic by-products (e.g. cyanides, carbon oxides, and nitrogen compounds). Collect contaminated extinguishing water separately, do not allow reach sewage or effluent systems.	

SECTION 6: Accidental release measures	
6.1	**Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation. Use breathing apparatus if exposed to vapours/dust/aerosol. Do not eat, drink or smoke while working with the product and after finishing working until you properly wash yourself with soap and hot water. Prevent direct contact with caprolactam. Do not touch the material leaking out of packaging units. Keep unauthorized people outside the affected area. Isolate the hazardous area and prohibit entry. Inform a local emergency centre.
6.2	**Environmental precautions** Do not empty into drains. Retain and dispose of contaminated wash water. Clean the contaminated area as soon as possible. Stop the leak if it can be done without taking any personal risks. Soil contamination: Dig out capture areas such as lagoons or ponds to contain the leaking material. Minimize the spread of the harmful substance. In case of leak in enclosed areas with risk of explosion, reduce evaporation by means of water spray.
6.3	**Methods and material for containment and cleaning up** SMALL LEAKS: Let the substance solidify (solidification point: approx. 70°C). Collect the leaked material in suitable containers for neutralization. LARGE LEAKS: If the product is transported in the form of melt, prevent its running by building protective walls or ditches of soil. First of all, prevent contamination of water streams. Allow to solidify and sweep/shovel up. Store the broken chunks and the contaminated soil in separate containers. Pump aqueous solutions, if any, into appropriate means of transportation. Diluted solutions can be liquidated by biological treatment and highly concentrated solutions by incineration. Contaminated soil can be stored in an appropriate landfill provided that respective regulations are observed. In case of a large accident, contact the manufacturer. For residues: Rinse away with water.
6.4	**Reference to other sections** None.

SECTION 7: Handling and storage	
7.1	**Precautions for safe handling** Ensure thorough ventilation of stores and work areas. During transportation in silo trucks the product is covered with nitrogen, do not climb in. Do not eat, drink or smoke while working with the product and after finishing working until you properly wash yourself with soap and hot water. When handling and storing the product keep valid safety regulations.
7.2	**Conditions for safe storage, including any incompatibilities** Segregate from acids and bases. Segregate from oxidants. Store in sealed containers. Prevent contact with water or moisture. Suitable materials for containers: Stainless steel 1.4301 (V2), aluminum, Stainless steel 1.4401 Further information on storage conditions: keep under nitrogen. Store and handle the product in accordance with all common regulations and standards. Store at room temperature. Vapours may form explosive mixture with air. Take precautionary measures against static discharges. Keep away from heating, open fire, sparkles and other possible sources of ignition.
7.3	**Specific end use(s)** Kaprolaktam flakeys are filled in 25 kg open, paper, 2-ply sewn bags with a sealed-in PE insert. Different packaging units (quantity and type of packaging) can be agreed upon between the customer and the manufacturer. Transported by rail (covered cars), ISO containers or by other covered means of transportation. Melted kaprolaktam is filled into 40 m3 or 47 m3 railroad cisterns provided with heating coils and a thermometer and into railroad containers or car cisterns. If heated, the temperature of melted kaprolaktam is maintained in the range 75 - 90 °C and **must not exceed 90°C**. The stated storage temperature should be noted. The **protective atmosphere of nitrogen** is maintained above melted kaprolaktam to prevent the oxidation of the product in atmospheric oxygen. Maximum oxygen content is 50 ppm. In order to maintain the oxygen content in the inert atmosphere below 50 ppm, both the customer and the supplier are obliged to secure the minimum overpressure of nitrogen in the cistern of 0.02 MPa and to refill the inert atmosphere in the cistern, or to empty the cistern only with nitrogen that does not contain more than 10 ppm of oxygen. The conditions of filling railroad containers and car cisterns and of good protection during transport are specified upon agreement with the customer. The technical fitness of the means of transportation is the responsibility of the carrier. The cisterns are reserved only for this substrate.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

The national occupational exposure limit values:

Name of substance (component(s)):	CAS	8-hours limit PEL [mg/m^3]	Short-term limit NPK-P [mg/m^3]	Note
ε-caprolactam dust	105-60-2	1	3	
ε-caprolactam vapors	105-60-2	10	40	

Occupational exposure limit values according to Directives 39/2000/EC and 15/2006/EC

Name of substance (component(s)):	CAS	8-hours limit [mg/m^3]	Short-term limit [mg/m^3]	Note
ε-caprolactam dust and vapors	105-60-2	10	40	

Recommended monitoring procedures:

Taking a sample of the working environment by means of a sample taking head to determine dustiness and subsequent evaluation by weighing (dust).

Taking a sample of the working environment on a sorbent material, desorption by methanol, and analytical determination of HPLC according to the PV2012 OSHA method.

The national biological limit values:

DNEL	
Worker, Short-term exposure - local effects, Inhalation:	5 mg/m³
PNEC	
PNEC aqua (freshwater):	2 mg/L
PNEC aqua (marine water):	0.2 mg/L
PNEC aqua (intermittent releases):	1 mg/L
PNEC sediment (freshwater):	18.7 mg/kg sediment dw
PNEC sediment (marine water):	1.87 mg/kg
PNEC soil:	2.55 mg/kg
PNEC STP:	1737 mg/l

8.2 Exposure controls

Personal exposure control: Take appropriate technical measures to make sure that the maximum admissible concentration in the working environment is not exceeded

Personal protective equipment:

Respiratory protection:	respirator or a protective mask with an insert against organic vapours (for instance AVEC S-97 with an insert filter A2). An isolation respirator must be worn when fighting accidents in an environment with high concentration.
Eye protection:	Employees are obliged to wear goggles or a face shield when working. To ensure the availability of first aid, install an eye water fountain and a safety shower within reach.
Hand protection:	Protective gloves with these specifications:

Working activity	Glove material	Minimum layer thickness	Time of penetration (minutes)
Common working activities with the possible risk of contamination	Nitril (KCL-730)	0,4 mm	480 min
Use during the liquidation of leaks and during accidents	Nitril (KCL-736)	1 mm	480 min

Notice: During further thermal processing the employer must consider the risk of burns with regard to the technology used.

Note: The gloves used must comply with the requirements of EU 89/686/EEC and standard EN 374.

Skin protection:	Employees are obliged to wear appropriate protective clothes to prevent contact with the product. When handling melt, it is also necessary to use appropriate means preventing the operating staff from getting burnt or scalded (depending on the technical equipment of the decanting place).

	Environmental exposure control: Do not discharge into the sewer system, surface water and soil.

SECTION 9: Physical and chemical properties		
9.1	**Information on basic physical and chemical properties**	
	Appearance	White organic solid, hydroscopic substance in the forms of flakes, leaves or melt
	Odour:	soft
	Odour threshold:	No data available.
	pH (at 20°C):	7 - 8.5 (333 g/l, 20 °C)
	Granulometry	D10: 682.635 µm D50: 1159.418 µm D90: 1679.521 µm
	Melting point/freezing point (°C):	69.3 °C
	Initial boiling point and boiling range (°C):	270.8 °C (1,013 hPa)
	Flash point (°C):	Not aplicable - solid substance 152 °C at 20° C and 1,013 hPa according to DIN 51758
	Evaporation rate:	No data available.
	Flammability (solid, gas):	Non-flammable solid substance
	Upper/lower flammability or explosive limits	The mixture of its dust with air may ignite or explode. Its vapors in the mixture with air are explosive.
	upper (% vol.):	11.9 %(V) (188 °C) (air)
	lower (% vol.):	1.6 %(V) (136 °C) (air)
	Vapour pressure:	0.0014 hPa (20 °C), 0.089 hPa (60 °C)
	Vapour density:	3,91 (if air = 1) (literature data)
	Relative density:	1.105 at 20°C
	Solubility:	866.89 g/l at 22°C (literature data)
	Partition coefficient n-octanol/water:	0.12 at 25°C
	Auto-ignition temperature:	The substance is not classified. 395 °C at 1,013 hPa according to DIN 51758
	Decomposition temperature:	No data available. No decomposition if correctly stored and handled.
	Viscosity:	not applicable (the substance is a solid at 20° C and 1,013 hPa)
	Explosive properties:	non explosive, explosive properties under specific conditions
	Oxidising properties:	no oxidising properties
	Stability in organic solvents and identity of relevant degradation products	Not applicable.
	Dissociation constant pKA	Not applicable.
9.2	**Other information**	
	soluble: chlorinated solvents, oil-based solvents, benzene, cyclohexane, chloroform, ethanol, methanol, ether, tetrahydrofurylalcohol, dimethylformamide Self heating ability: It is not a substance capable of spontaneous heating. Surface tension: Based on chemical structure, surface activity is not to be expected.	

SECTION 10: Stability and reactivity	
10.1	**Reactivity** No corrosive effect on metal. Incomplete combustion results in formation of toxic gases, containing mainly carbon monoxide and carbon dioxide and hydrogen cyanide, nitrogen oxides. Forms no flammable gases in the presence of water.
10.2	**Chemical stability** The product is stable if stored and handled as prescribed
10.3	**Possibility of hazardous reactions**

	Dangerous chemical reaction: with oxidation materials CAPROLACTAM + ACETIC ACID + DINITROGEN TRIOXIDE: The compound may explode, if it is not cooled properly. CAPROLACTAM + OXIDATION AGENTS (STRONG): Risk of fire and explosion. Polymerization coupled with heat formation.
10.4	**Conditions to avoid** Inappropriate storage conditions: Keep away from heating, open fire, sparks and other possible sources of ignition. Fire or explosion may occur in contact with flammable materials. Avoid formation of polymers in valves and pipes.
10.5	**Incompatible materials** ACETIC ACID, DINITROGEN TRIOXIDE, OXIDIZING AGENTS (STRONG)
10.6	**Hazardous decomposition products** No hazardous decomposition products if stored and handled as prescribed/indicated. Incomplete combustion results in formation of toxic gases, containing mainly carbon monoxide and carbon dioxide and nitrogen oxides.

SECTION 11: Toxicological information

11.1	**Information on toxicological effects**	
	a)	***Acute toxicity*** Caprolactam is harmful if swallowed and if inhaled according to EU and GHS (acute oral/inhal Cat. 4) standards. No signs of systemic toxicity. LD50 Oral (rat) = 1475 mg/kg bw (male) and 1876 mg/kg bw (female) LC50 Inhalation-aerosol (rat) = 8.16 mg/l (male/female) with 1 of 10 dead animals at limit dose of approx 5 mg/l. LD50 Dermal = >2000 mg/kg bw (rat)
	b)	***Skin corrosion/irritation*** No valid animal data available, classification as an irritant on all relevant routes of exposure based on human experience. In accordance to classification parametres (EC) 1272/2008 **contact with the substance causes irritation**.
	c)	***Serious eye damage/irritation*** No valid animal data available, classification as an irritant on all relevant routes of exposure based on human experience. In accordance to classification parametres (EC) 1272/2008 **the substance causes irritation**.
	d)	***Respiratory or skin sensitisation*** **Not sensitizing** in Alarie assay. **Not sensitizing** in guinea pig maximization test and Buehler test. The data are conclusive but not sufficient for classification.
	e)	***Germ cell mutagenicity*** Most of the results from the numerous studies available show **no evidence of a mutagenic effect**.
	f)	***Carcinogenicity*** In long-term animal studies in which the substance was given in high concentrations by feed, a carcinogenic effect was not observed.
	g)	***Reproductive toxicity*** The results of animal studies gave no indication of a fertility impairing effect.
	h)	***Specific target organ toxicity (STOT) - single exposure*** The local respiratory irritation observed on inhalation route of exposure. Classification STOT Single Exp. 3
	i)	***Specific target organ toxicity (STOT) - repeated exposure*** The substance may cause damage to the upper respiratory tract even after repeated inhalation, as shown in animal studies. After repeated exposure the prominent effect is local irritation. No systemic effects observed.
	j)	***Aspiration hazard*** No aspiration hazard expected.

SECTION 12: Ecological information

12.1	**Toxicity** There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. In accordance to classification parametres (EC) 1272/2008 the substance does not meet classification criteria.
	Fish

	LC0 (96 h) >100 mg/l, Oryzias latipes (OECD Guideline 203, semistatic) LC50 (96 h) 707.1 mg/l, Salmo gairdneri, syn. O. mykiss (OECD 203; ISO 7346; 84/449/EEC, C.1,static) Chronic toxicity to fish: Study scientifically not justified.
	Algae EC50 (72 h) > 1,000 mg/l (growth rate), Selenastrum capricornutum (OECD Guideline 201, static)
	Daphnia Toxicity to aquatic invertebrates: EC50 (48h) >1000 mg/L Daphnia magna (OECD Guideline 202, part 1, static) Chronic toxicity to aquatic invertebrates: NOEC (21d) >100 mg/l, Daphnia magna (OECD Guideline 211, semistatic)
	Bacteria Microorganisms/Effect on activated sludge:EC10 (17 h) 1737 mg/l, Pseudomonas putida (other, aquatic) Respiration of activated sludge is not inhibited at concentration > 1000 mg/L.
12.2	**Persistence and degradability** epsilon-Caprolactam is readily biodegradable according to OECD criteria. In contact with water the substance will hydrolyse slowly.
12.3	**Bioaccumulative potential** There is no evidence that epsilon-Caprolactam bioaccumulates in organisms. Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.
12.4	**Mobility in soil** The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.
12.5	**Results of PBT and vPvB assessment** The substance is not PBT or vPvB substance.
12.6	**Other adverse effects** Other ecotoxicological advice: Do not release untreated into natural waters.

SECTION 13: Disposal considerations – in accordance with national directions	
13.1	**Waste treatment methods**
	a) **Possible hazards in disposing of the substance and contaminated packaging** Uncleaned empties should be disposed of in the same manner as the contents. Empty packaging units can be recycled; plastic parts can be burnt in an approved incinerator fitted with the appropriate degree of gaseous by-products cleaning (1200-1400°C during the second degree; at least the second degree of gaseous by-products cleaning.) The cisterns used to transport caprolactam are returned to the manufacturer. The liquidation of the residual product in cisterns and the cleaning of the cisterns is arranged for by the manufacturer.
	b) Physical/chemical properties that may affect waste treatment _____
	c) Avoiding waste disposal through sewerage Harmful to water. Prevent leaks into the sewer system, water streams and soil.
	d) **Special precautions for any recommended waste treatment** Observe all valid waste-related laws and regulations. Residual kaprolaktam is liquidated by burning in an approved incinerator with a temperature of 1200-1400°C during the second degree; the incinerator must be fitted with at least the second degree of gaseous by-products cleaning. Czech Republic: Waste Act No. 185/2001 Sb., as annotated, Waste catalog (decree No. 381/2001 Sb.) as annotated. European Union: Directive of the European Parliament and Council No. 2006/12/ES on waste

SECTION 14: Transport information		
	Not classified as a dangerous good under transport regulations.	
14.1	**UN number**	
14.2	**UN proper shipping name**	
	ADR	
	RID	
	IMDG:	
	ICAO/IATA:	
14.3	**Transport hazard class(s)**	

	ADR	*RID*	*IMDG:*	*ICAO/IATA:*
	Not classified	Not classified	Not classified	Not classified
	Classification			
	ADR	*RID*		
14.4	**Packing group**			
	ADR	*RID*	*IMDG:*	*ICAO/IATA:*
	Hazard Identification No. (Kemler)			
	ADR			
	Labels			
	ADR	*RID*	*IMDG:*	*ICAO/IATA:*
	Note			
	ADR	*RID*	*IMDG:*	*ICAO/IATA:*
			Marine pollutant: EmS:	PAO: CAO:
14.5	**Environmental hazards**			
	Not a dangerous substance under transport regulations.			
14.6	**Special precautions for user**			
	Kaprolaktam flakey is filled in 25 kg open, paper, 2-ply sewn bags with a sealed-in PE insert. Different packaging units (quantity and type of packaging) can be agreed upon between the customer and the manufacturer. Transported by rail (covered cars), ISO containers or by other covered means of transportation. Melted kaprolaktam is filled into 40 m3 or 47 m3 railroad cisterns provided with heating coils and a thermometer and into railroad containers or car cisterns. If heated, the temperature of melted kaprolaktam **must not exceed 90°C**. The **protective atmosphere of nitrogen** is maintained above melted kaprolaktam to prevent the oxidation of the product in atmospheric oxygen. Maximum oxygen content is 50 ppm. In order to maintain the oxygen content in the inert atmosphere below 50 ppm, both the customer and the supplier are obliged to secure the minimum overpressure of nitrogen in the cistern of 0.02 MPa and to refill the inert atmosphere in the cistern, or to empty the cistern only with nitrogen that does not contain more than 10 ppm of oxygen. The conditions of filling railroad containers and car cisterns and of good protection during transport are specified upon agreement with the customer. The technical fitness of the means of transportation is the responsibility of the carrier. The cisterns are reserved only for this substance.			
14.7	**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**			

SECTION 15: Regulatory information	
15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture** Regulation of the European Parliament and Council (EC) No. 1907/2006 REACH Regulation (EC) 1272/2008 on classification, labelling and packaging (CLP) of substances and mixtures
15.2	**Chemical safety assessment** Chemical safety assessment was carried out.

SECTION 16: Other information	
	a) The changes in case of a revised safety data sheet New safety data sheet according to Annex II Regulation (EC) 1907/2006
	b) A key or legend to abbreviations and acronyms

PBT persistent, bioaccumulative and toxic
vPvB very persistent, very bioaccumulative

Acute Tox. 4 (Inhalation – dust): Acute toxicity (inhal.), Hazard Category 4
Acute Tox. 4 (Oral): Acute toxicity (oral), Hazard Category 4
Skin Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Eye Irrit. 2: Skin corrosion/irritation, Hazard Category 2
STOT SE 3 (Irritating to respiratory system): Specific target organ toxicity — Single exposure, Hazard Category 3, Respiratory tract irritation

c) Key literature references and sources for data

Regulation of the European Parliament and Council (EC) No. 1907/2006
Registration documentation according to Direction (EC) 1907/2006 REACH
Appendix I, IV, VI a VII from Direction (EC) 1272/2008 CLP

Act No. 350/2011 Sb. on chemical substance and on chemical preparations and on changes in certain laws, as annotated
Act No. 258/2000 Sb. on the protection of public health and on changes in certain related laws, as annotated
Governmental decree No. 361/2007 Sb., that stipulates the conditions of protecting employees' health at work

d) List of relevant R phrases, hazard statements, safety phrases and/or precautionary statements

H-phrases	H319 Causes serious eye irritation. H315 Causes skin irritation. H332 Harmful if inhaled. H302 Harmful if swallowed. H335 May cause respiratory irritation.
P-phrases	P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P270 Do no eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P264 Wash with plenty of water and soap thoroughly after handling. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/attention. P362 Take off contaminated clothing and wash before reuse. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P332 + P313 If skin irritation occurs: Get medical advice/attention. P301 + P330 IF SWALLOWED: rinse mouth. P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P405 Store locked up. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P501 Dispose of contents/container to hazardous or special waste collection point.

e) Training appropriate for workers

People handling the product must be informed about the risk of possible life and health hazards and about requirements for the protection of health and environment (see the respective provisions of Labor Code)

f) More information

Safety Data Sheet has been prepared in accordance with the Regulation of the European Parliament and Council Regulation (EC) no. 1907/2006. Safety Data Sheet contains data necessary for ensuring safety and health at work and environmental protection. These data correspond to the current state of knowledge and experience and are in compliance with applicable laws and regulations. They cannot be considered a guarantee of suitability for a specific application. For compliance with local laws in force in the responsibility of the buyer.
According to Article 35 of the European Parliament and Council Regulation (EC) no. 1907/2006 requires each employer to enable workers and their representatives access to the information from MSDS substances / preparations, the worker uses or whose effects may be exposed during their work.