

**SECTION 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY**
**1.1. Product identifier**

<i>Commercial product name</i>	ZAKsan <sup>®</sup> 33.5
<i>Synonyms</i>	Ammonium nitrate, Ammonium nitrate 33.5N
<i>Chemical formula</i>	NH <sub>4</sub> NO <sub>3</sub> +CaMg(CO <sub>3</sub> ) <sub>2</sub>
<i>Unique Formula Identifier</i>	UFI: 0910-J059-U008-RUNU

**1.2. Relevant identified uses of the mixture and uses advised against**

Identified uses:	ZAKsan <sup>®</sup> 33.5 is used as a fertilizer
Uses advised against:	None

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

<i>Name</i>	Grupa Azoty Zakłady Azotowe Kędzierzyn Spółka Akcyjna
<i>Address</i>	p.o. box 163, ul. Mostowa 30A, 47-220 Kędzierzyn-Koźle
<i>Telephone</i>	/+48/ 77 481 20 00 (head office)
<i>Person responsible for safety data sheet (e-mail)</i>	karta_nawozy@grupaazoty.com

**1.4. Emergency telephone number**

<i>Poland</i>	<b>997</b>	Police
	<b>998</b>	Fire service
	<b>999</b>	Emergency medical services
	<b>112</b>	Rescue number in Poland
	<b>+48 77 481 34 01</b>	Shift Dispatcher at the Company Grupy Azoty ZAK S.A. (24h/7, only in Polish)
<i>France</i>	<b>+33 14 542 59 59</b>	Centres Antipoison et de Toxicovigilance
<i>Iceland</i>	<b>+35 45 43 22 22</b>	Landspítali
<i>Lithuania</i>	<b>+37 05 236 20 52</b>	Lithuanian Poison Information Bureau
	<b>+37 06 875 33 78</b>	
<i>Malta</i>	<b>112</b>	
<i>Romania</i>	<b>+40 21 318 36 06</b>	
<i>Slovakia</i>	<b>+42 12 547 741 66</b>	Národné Toxikologické Informačné Centrum
<i>Slovenia</i>	<b>112</b>	
<i>Italy</i>	<b>+39 64 997 80 00</b>	Centro antiveneni di Roma - Policlinico Umberto I

**SECTION 2: HAZARDS IDENTIFICATION**
**2.1. Classification of the mixture**
**Classification according to Regulation (EC) No. 1272/2008 (CLP)**

Oxidising solid, hazard category 3 (Ox. Sol. 3)

H272: May intensify fire; oxidizer

Serious eye damage/eye irritation, hazard category 2 (Eye Irrit 2)

H319: Causes serious eye irritation

**2.2. Label elements**

*GHS03*

*GHS07*
**Signal word:** "Warning"

**Hazard statements:**

H272: May intensify fire; oxidizer

H319: Causes serious eye irritation

**Precautionary statements:**

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P220: Keep away from clothing and other combustible materials.

P264: Wash hands thoroughly after handling.

P280: Wear eye protection.

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.

**2.3. Other hazards**

On the basis of the available data it is stated that ZAKsan<sup>®</sup> 33.5 does not fulfill the criteria of toxicity, persistence and bioaccumulation (PBT) or the criteria of high persistence and high bioaccumulation (vPvB).

Prevent entry of the substance into surface and ground waters. In high concentrations, the mixture causes secondary eutrophication of water bodies, rapid algae growth and decreased oxygen content in waters.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**
**3.1. Substances**

Not applicable.

**3.2. Mixtures**

Name of the substance	EC Number	CAS Number	Registration number	Classification	Content [%]
Ammonium nitrate	229-347-8	6484-52-2	01-2119490981-27-0017	Serious eye damage/eye irritation, Category 2 (Eye irrit. 2): H319 Oxidising solid, Category 3 (Ox. Sol. 3): H272	94,05±97,48
Dolomite	-	-	-	-	2,52±5,95

**SECTION 4: FIRST AID MEASURES**
**4.1. Description of first aid measures**

Inhalation: Move to fresh air. In case of symptoms, seek medical care.

Skin contact: Rinse with plenty of running water. Remove contaminated clothing and shoes. In case of symptoms, seek medical care.

Eye contact: Rinse with plenty of running water. In case of symptoms, seek medical care.

Swallowing: If swallowed, rinse mouth with water (only when the victim is conscious). Do not induce vomiting. In case of symptoms, seek medical care.

**4.2. Most important symptoms and effects, both acute and delayed**

Blue colouring of lips, nails and skin due to methemoglobinemia, if ingested.

**4.3. Indication on any immediate medical attention and special treatment needed**

In case of clinical symptoms of methemoglobinemia, the medical personnel should immediately: administer 100% oxygen for breathing, 1 g of ascorbic acid intravenously. If a medical practitioner is present at the event, administer methylene blue in quantity of 10-50 ml.

## SECTION 5: FIREFIGHTING MEASURES

**5.1. Extinguishing media**

Suitable extinguishing media: Non-flammable product. Extinguish nitrogen fires with plenty of water.

Unsuitable extinguishing media: Do not use extinguishing foams and powders.

**5.2. Special hazards arising from the mixture**

May display explosive properties in contact with flammable or organic substances in confined spaces during fire. In case of fire, ammonium nitrate may be a source of hazardous decomposition products, i.e. oxides (NO, NO<sub>2</sub> etc.), ammonia (NH<sub>3</sub>), amines.

**5.3. Advice for firefighters**

No special advices. Wear protective clothing and self-contained breathing apparatus.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**6.1. Personal precautions, protective equipment and emergency procedures**

Wear suitable protective clothing (Section 8. Exposure control/personal protection equipment).

**6.2. Environmental precautions**

Prevent entry to surface and ground waters.

**6.3. Methods and material for containment and cleaning up**

Minor spills: pump down or pick up the product and place in a dedicated labelled waste container. Clean any contaminated surfaces with plenty of water. Do not remove spilled product with sawdust or any other flammable material.

Major spills: pump down or pick up the product and place in a dedicated labelled waste container. Dispose for recovery. Clean any contaminated surfaces with plenty of water. If spilled substance enters the ground waters, notify the local authorities. Do not remove spilled product with sawdust or any other flammable material.

**6.4. Reference to other sections**

See SECTION 8 and SECTION 13.

## SECTION 7: HANDLING AND STORAGE

**7.1. Precautions for safe handling**

Due to hygroscopicity, ZAKsan® 33.5 should be stored in packaging in clean and dry warehouse buildings of non-flammable and moisture insulated floor surface. The fertiliser should be protected against water, precipitations, direct sun and heating above 30°C. No open fire is allowed in premises with stored ZAKsan® 33.5. Power cables should be protected against short circuits.

Keep ZAKsan® 33.5 away from potentially reactive chemical compounds and materials, including among others: plant protection

products, fertilisers containing chlorides, organic substances, strong alkaline substances /e.g. lye soda/, lime, cement, powdered metals, metal oxides, acids and flammable materials, such as: coal, sawdust, greases and propellants.  
Environmental exposure controls: see SECTION 8.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage** Do not expose to high temperatures and sunlight.

Handling and storage of more than 1250 Mg of ZAKsan® 33.5 in an establishment classifies a given entity as the major accident hazard lower-tier establishment and above 5000 mg as major accident hazard higher-tier establishment (Annex 1, Part 2, item 14, Directive of the European Parliament and of the Council 2012/18/EU)

**Shared storage** Avoid contact with combustible and reducing agents.

**7.3. Specific end use(s)**

ZAKsan® 33.5 is used as a fertiliser.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**
**8.1. Control parameters**

WEL – not applicable

Long-term exposure - systemic effects (DNELs) – workers	
Ammonium nitrate	<u>Systemic effect</u>
	<i>Skin</i> 5.12mg/kg b.m./d
	<i>Inhalation</i> 36 mg/m <sup>3</sup>

Long-term exposure - systemic effects (DNELs) – general population	
Ammonium nitrate	<u>Systemic effect</u>
	<i>Skin</i> 2.56mg/kg b.m./d
	<i>Inhalation</i> 8.9 mg/m <sup>3</sup>
	<i>Swallowing</i> 2.56mg/kg b.m./d

Predicted No-Effect Concentration (PNEC)	
Sewage treatment plant	18 mg/l

**8.2. Exposure controls**

**Technical controls:** Not required. Applying good ventilation is a good industrial practice.

**Individual protection measures:** Do not eat, drink or smoke when using the product. Wash hands after using the product, before meal, smoking, using toilette and at the end of the day.

**Personal protection measures:** See table below



**EYE/FACE PROTECTION**

Wear face protection or protective glasses. The equipment must meet the requirements of EN 166 standard.


**HAND PROTECTION**

Wear protective gloves.


**SKIN/BODY PROTECTION**

Wear protective clothing. Wear safety shoes.


**RESPIRATORY PROTECTION**

In case of dust, wear respiratory protective equipment in a form of filtering respirator. The equipment must meet the requirements of EN 149 standard.

**GENERAL INDUSTRIAL HYGIENE PRINCIPLES**

Avoid contact with eyes. Ensure that an eye washer is located near the work station.


**HYGIENE PRODUCTS**

Do not eat, drink or smoke when using the product. Take off contaminated clothing immediately.

Wash hands before the break and immediately after finishing work with the product.

Environmental exposure control: Notify the applicable authorities in case of any release of the substance to surface and ground waters

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**
**9.1. Information on basic physical and chemical properties**

<i>Appearance:</i>	in 20°C and pressure of 1013 hPa	Transparent/white deliquescent crystals or granules hygroscopic
<i>Odour:</i>		-
<i>Odour threshold:</i>		-
<i>pH:</i>		-
<i>Melting/freezing point:</i>		under pressure of 1013 hPa                      169.6 °C
<i>Boiling range:</i>		the mixture decomposes before reaching the boiling point
<i>Flash point:</i>		the mixture is inorganic
<i>Evaporation rate:</i>		-
<i>Flammability (solid, gas):</i>		non-flammable mixture
<i>Flammability limits or explosion limits:</i>	lower	-
	upper	-
<i>Vapour pressure:</i>		testing not required
<i>Vapour density:</i>		-
<i>Relative density:</i>	in temperature of 20°C	1.72
<i>Solubility:</i>		readily soluble in water (>100 g/L)
<i>n-octanol/water partition coefficient, (log):</i>		the mixture is inorganic
<i>Auto-ignition temperature:</i>		testing scientifically unjustified
<i>Decomposition temperature:</i>		≥210°C
<i>Viscosity:</i>		testing scientifically unjustified

<i>Explosive properties:</i>	non-explosive
<i>Oxidizing properties:</i>	yes
<b>9.2. Other information</b>	
<i>Grain size:</i>	the product in the form of granules contains no particles of fraction absorbable in the alveoli (0%<0.5 mm)

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

ZAKsan<sup>®</sup> 33.5 is unstable when heated to higher temperatures. Ammonium nitrate has oxidising properties and reacts with flammable and reducing agents. Water solutions of saltpetre are weak acids.

### 10.2. Chemical stability

Stable in recommended storage and handling conditions (see Section 7).

### 10.3. Possibility of hazardous reactions

Reacts dangerously with flammable and reducing agents.

### 10.4. Conditions to avoid

Decomposes after heating. Avoid tight sealing.

### 10.5. Incompatible materials

Reducing agents, strong acids and alkali, powdered metals, flammable materials, chromates, zinc, copper and copper alloys and chlorides.

### 10.6. Hazardous decomposition products

Nitrogen oxides (NO, NO<sub>2</sub>), ammonia (NH<sub>3</sub>) and amines.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Data refer to ammonium nitrate

##### Metabolism

Ammonium nitrate dissociates into NH<sub>4</sub><sup>+</sup> ion and nitrate ions. Ammonium cation is a waste product of animal metabolism that is re-used in protein synthesis via glutamate rather than main ion. Depending on species, ammonium shall be directly released to the environment or transformed to less toxic urea. Nitrate toxicity in humans is demonstrated by enterohepatic metabolism of nitrates to ammonia with nitrite as an intermediate product.

##### Toxicokinetics

On the basis of low molecular weight, high solubility in water, probably logP<sub>ow</sub> value (partition coefficient: octanol/water), high absorption is expected. At the same time, the substance ions are formed immediately after contact with liquid, which reduces absorption. Thus, in order to assess the exposure via digestive system, skin and respiratory system, the absorption value of 50% was adopted.

Bioaccumulative potential	No data						
Skin penetration	No data						
Acute toxicity	<table border="0"> <thead> <tr> <th style="text-align: center;">Ingredient name</th> <th style="text-align: center;">Route</th> <th style="text-align: center;">Effect</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Ammonium Nitrate (100%)</td> <td style="text-align: center;">Inhalation (30 minutes) Swallowing Skin contact</td> <td style="text-align: center;">Not applicable LD50&gt;2000 mg/kg LD50&gt;5000 mg/kg</td> </tr> </tbody> </table>	Ingredient name	Route	Effect	Ammonium Nitrate (100%)	Inhalation (30 minutes) Swallowing Skin contact	Not applicable LD50>2000 mg/kg LD50>5000 mg/kg
Ingredient name	Route	Effect					
Ammonium Nitrate (100%)	Inhalation (30 minutes) Swallowing Skin contact	Not applicable LD50>2000 mg/kg LD50>5000 mg/kg					
Działanie żrące/ drażniące na skórę	Ammonium nitrate has no skin irritation effect. Longer skin contact may cause redness.						
Serious eye damage/ eye irritation	Irritating to eyes, effects fully reversible						
Sensitising to respiratory tracts or skin	Skin: no effect, Respiratory system: no data						
Germ cells mutagenicity	Genotoxicity: negative result						
Carcinogenicity	No carcinogenic effect of ammonium nitrate according to available information						
Reproductive toxicity	No data						
STOT – single exposure	No target organ toxicity at single exposure observed.						
STOT – repeated exposure	No target organ toxicity at repeated exposure observed.						
Aspiration hazards	No evidence of harmful effect related to aspiration according to available data.						
Neurotoxicity	No data						
Repeated exposure toxicity	<u>Oral exposure:</u> No available data for repeated dose toxicity with ammonium nitrate NOAEL KNO <sub>3</sub> : 256 mg/kg of body mass  <u>Inhalation:</u> NOAEC: 185 mg/m <sup>3</sup>  <u>Skin:</u> No skin testing						

**SECTION 12: ECOLOGICAL INFORMATION**

**12.1. Toxicity**

Water	<u>Acute toxicity (hazardous agent - ammonium nitrate):</u> <i>Fish</i> LC50/48h: <i>Cyprinus carpio</i> : 447 mg/l <i>Crustaceans</i> EC50/24h/48h: <i>Daphnia magna</i> : 490 mg/l <i>Algae</i> EC50/10d KNO <sub>3</sub> algae test: 1700 mg/l
Terrestrial environment	Nitrate absorbed by the plants is reduced to nitrite by nitrate reductase enzyme. This enzyme is present in plants, certain bacteria species and digestive tissues of mammals. Nitrate will be reduced in case of photosynthesis and synthesis of carbohydrates. In draught, frost or shadow conditions, or absence of other nutrients, the process of photosynthesis and protein synthesis is reduced. In such case, the nitrate will continue to be absorbed and deposited in plant tissues.
Sewage treatment plant	EC50/180min NaNO <sub>3</sub> active sediment, household: >1000 mg/l EC10/180min NaNO <sub>3</sub> active sediment, household: 180 mg/l

**12.2. Persistence and degradability**
**Persistence / Abiotic degradation**

Ammonium nitrate is completely soluble in water. Other information is not required/available.

**Biodegradation**

No testing is needed since the substance is inorganic (Annex VII, REACH). In addition, in process of anaerobic ammonium transformation, one group of bacteria oxidises ammonium to nitrite, while the other one oxidises nitrite to nitrate. An average biodegradation rate in sewage treatment plants in temperature of 20°C is 52 g N/kg of dissolved substance/day. Nitrate degradation is faster under anaerobic conditions. During anaerobic transformation of nitrate to N<sub>2</sub>, N<sub>2</sub>O and NH<sub>3</sub>, the biodegradation rate in sewage treatment plants in temperature of 20°C is 70 g N/kg of dissolved substance/day.

**12.3. Bioaccumulative potential**
**In aquatic environment:**

Simple inorganic salts highly soluble in water are present in dissociated form in water solution. Such substances have low bioaccumulability.

**In soil:**

As in the case of bioaccumulation in aquatic environment, bioaccumulability in terrestrial organisms is also assessed as low.

**12.4. Mobility in soil**

Simple inorganic soils highly soluble in water will be present in dissociated form in water solution, thus they will be of low absorption potential. In addition, the screening study (OECD 121) could not be performed due to technical reasons and QSARs are not applicable for this type of substances.

The nitrate is not bound in soil and will be transferred with water, and therefore if soil is watered with greater amount of water that it is able to absorb, it can be washed out. This is possible primarily in late autumn, winter and early spring. There are numerous studies on the environmental impact of NO<sub>3</sub> and NH<sub>4</sub><sup>+</sup>/NH<sub>3</sub>.

**12.5. Results of PBT and vPvB assessment**

Pursuant to Annex XIII of the Regulation (EC) No.1907/2006, the assessment of PBT and vPvB criteria was not performed, since ammonium nitrate is inorganic compound.



**12.6. Endocrine disrupting properties**

Not applicable.

**12.7. Other adverse effects**

High level of nitrates in waters results in rapid algae growth and reduced content of oxygen in water (eutrophication).

**SECTION 13: DISPOSAL CONSIDERATIONS****13.1. Waste treatment methods****Product information**

Waste collection and processing shall comply with the local and national provisions on waste management. The selection of relevant waste treatment/recovery depends on local conditions and capacity of treatment/recovery. Waste is classified as non-hazardous – in accordance with the Regulation of the Minister of Climate on waste catalogue of January 2, 2020 (Journal of Laws of 2020, item 10).

The collected product, if possible, should be primarily returned for re-use as fertiliser. The remain product being waste should be disposed to the authorised waste collection entities, primarily for recovery. Do not dispose product into aquatic environment. Diluted solutions can be transferred to sewage treatment plants capable of nitrogen compound disposal.

**Used empty packaging**

Used packaging, after thorough emptying and cleaning, should be handed over to an authorized recipient of waste for recovery/disposal. Information on waste recipients can be obtained from local administrative authorities competent for environmental protection (e.g. Municipal Office, Poviast Starost's Office). It is recommended to transfer waste to the closest recipients.

Regulations:

1. Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ of 2008, Volume 51, L312, as amended).
2. The Act of 14 December 2012 on waste (consolidated text: Journal of Laws of 2020, item 797, as amended) together with executive acts.
3. Act of 13 June 2013 on the management of packaging and packaging waste (consolidated text: Journal of Laws of 2020, item 1114, as amended) together with executive acts.

**SECTION 14: TRANSPORT INFORMATION****14.1. UN number or ID number**

<i>RID/ADR</i>	UN 2067
<i>IMDG</i>	UN 2067
<i>ADN</i>	UN 2067
<i>ICAO/IATA</i>	UN 2067

**14.2. UN proper shipping name**

<i>RID/ADR</i>	Ammonium nitrate based fertilizer
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<i>IMDG</i>	Ammonium nitrate based fertilizer
<i>ADN</i>	Ammonium nitrate based fertilizer
<i>ICAO/IATA</i>	Ammonium nitrate based fertilizer

**14.3. Transport hazard class(es)**

<i>RID/ADR</i>	5.1
<i>IMDG</i>	5.1
<i>ADN</i>	5.1
<i>ICAO/IATA</i>	5.1

**14.4. Packing group**

<i>RID/ADR</i>	group III
<i>IMDG</i>	group III
<i>ADN</i>	group III
<i>ICAO/IATA</i>	group III

**14.5. Environmental hazards**

Not applicable.

**14.6. Special precautions for user**

Not applicable.

**14.7. Maritime transport in bulk according to IMO instrument**

Not applicable.

**SECTION 15: REGULATORY INFORMATION**
**15.1. Safety, health and environmental regulations/legislation specific for the mixture**
**European Union**

1. Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No 1488/94, as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/WE (OJ EU of 2006, vol. 49, L396 as amended) Ammonium nitrate contained in the product is listed in Annex XIV to the REACH and therefore **is not subject to authorisation**.

Ammonium nitrate contained in the product **is subject to restrictions** pursuant to Annex XVII to the REACH (item 58).

**Ammonium nitrate:**

- shall not be placed on the market for the first time after 27 June 2010 as a substance, or in mixtures that contain more than 28 % by weight of nitrogen in relation to ammonium nitrate, for use as a solid fertiliser, straight or compound, unless the fertiliser complies with the technical provisions for ammonium nitrate fertilisers of high nitrogen content set out in Annex III to Regulation (EC) No 2003/2003 of the European Parliament and of the Council.
2. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on the classification, labelling and packaging of substances and mixtures, amending and repealing Directives

67/548/EEC and 1999/45/EC and amending the Regulation (EC) No. 1907/2006 (OJ EU of 2008, Volume 51, L 353, as amended)

- REGULATION (EU) 2019/1148 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013 ) (OJ EU, L 186, 11 July 2019 as amended)

**Ammonium nitrate** is listed in Annex II, therefore any suspicious transactions and their attempts, losses and thefts should be reported to the National Contact Point.

- Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC (SEVESO III) (OJ EU, L 197, 24 July 2012)

**Ammonium nitrate** is listed in Annex I, part 2, therefore, having qualifying quantities may qualify establishment for a 'lower-tier establishment or 'upper-tier establishment' of major accident hazard.

## National

Local regulations

### 15.2. Chemical safety assessment

No chemical safety assessment was performed for the mixture. Safety report for ammonium nitrate was prepared.

## SECTION 16: OTHER INFORMATION

### 16.1. Implemented amendments

Compliant with REACH and CLP.

### 16.2. Legend to abbreviations and acronyms

CLP	Classification, labelling and packaging of chemical substances and mixtures
PBT	Persistent, bioaccumulative and toxic
vPvB	very persistent and very bioaccumulative
EC	The EC list consists of three combined European inventories resulting from earlier EU legislation on chemicals: EINECS, ELINCS and the list of "No-longer polymers" (NLP)
CAS	Number assigned to a substance by Chemical Abstracts Service
WEL	Workplace exposure limit
DNEL	Derived no-effect level
LCx	lethal concentration x%
ECx	effect concentration inhibiting the growth of x% of the studied population
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
QSAR	Quantitative structure–activity relationship
UN	United Nations Organization
RID	Regulations on carriage of dangerous goods to the Convention concerning International Carriage by Rail
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road

**16.3. Key literature and data sources**

Registration dossier of ammonium nitrate.

**16.4. Trainings**

1. The employer is obliged to inform all employees who are in contact with ZAKsan<sup>®</sup> 33.5, about the hazards and personal protection measures specified herein.
2. The distributor is obliged to provide the ZAKsan<sup>®</sup> 33.5 recipient with information contained herein.

**16.5. Replaces**

PZ-046-02-1.0

*This Safety Data Sheet IS NOT a quality specification of the product and CANNOT BE treated as guarantee of its quality or compliance with customer requirements for individual uses. Its task is to provide guidance in the safe handling of the substance (work safety and environmental protection), its transport and storage. Data provided in this safety data sheet are based on our best knowledge and legal regulations currently in force. Recipients should ensure that this information complies with the laws and/or regulations that apply in their countries and/or enterprises.*