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## **1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

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### **1.1. PRODUCT IDENTIFIER**

**Saletrosan 26 macro**

### **REGISTRATION NO.**

Substance: ammonium nitrate  
No. 01-21194990981-27-0041  
Substance: ammonium sulphate  
No. 01-2119455044-46-0040

### **1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST**

As a fertilizer  
(CRS application no.: 10-18)

### **1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET**

**ZAKŁADY AZOTOWE W TARNOWIE-  
MOŚCICACH S.A.**  
**ul. Kwiatkowskiego 8**  
**33- 101 Tarnów**  
**Poland**  
**tel. +48/14/633-07-81 to 85**  
**fax +48/14/633-07-18**  
competent person responsible for the Safety Data Sheet :  
[fb@azoty.tarnow.pl](mailto:fb@azoty.tarnow.pl); tel. +48/14/637-40-81

### **1.4 EMERGENCY TELEPHONE NUMBER**

**+48/14/637-21-00, 637-31-00 (24 hours)**

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## **2. HAZARDS IDENTIFICATION**

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### **2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE**

Classification according to 1272/2008.

The components of the product are not mentioned in Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures; however on the basis of Chemical Safety Report for ammonium nitrate, the product is classified as irritating to eyes (category 2) H319 – causes serious eye irritation.

According to Directive 67/548/EEC - irritant: Xi; risk phrase: R 36 - irritating to eyes.

### **2.2 LABEL ELEMENTS**

Signal word: WARNING



GHS07

Hazard statement:

(H319) - Causes serious eye irritation.

Precautionary statements: prevention

(P264) - Wash your hands thoroughly after handling.

(P280) - Wear protective gloves, eye protection.

Precautionary statements: prevention and response

(P305 + P351 + P338) - If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

(P337 + P313) - If eye irritation persists: get medical advice/attention.

(P301 + P312) - If swallowed: call a poison centre or doctor/physician if you feel unwell.

### 2.3 OTHER HAZARDS

The hazard of poisoning through the skin and respiratory tract is very small. Saletrosan absorbs well through digestive tract (it is partly reduced in stomach and bowels to more toxic nitrite). Small doses do not induce any symptoms. Bigger doses irritate mucosa of digestive tract, which may cause gastrointestinal disorders resulting in nausea, vomiting and diarrhoea as well as generation of methaemoglobin in the organism. Avoid contact with saletrosan dusts. The product must not enter potable (drinking) water intakes, wastewater and soil. Polluted waters are unsafe for drinking.

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

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### 3.1 MIXTURES

Name of the substance	content	EC	CAS	Classification	Registration Number
Ammonium nitrate	48%	229-347-8	6484-52-2	H319, H272 – according to Directive 67/548/EEC	01-21194990981-27-0041
Ammonium sulphate	52%	231-984-1	7783-20-2	The substance is not included in the Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16 December 2008	01-2119455044-46-0040
Dolomite flour	4%	240-440-	16389-88-1	Does not require classification	-

		2			
Anti-caking agent	0.1%	-	-	Does not influence the classification	-

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## 4. FIRST AID MEASURES

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### 4.1 DESCRIPTION OF FIRST AID MEASURES

Take off immediately all contaminated clothing. Provide fresh air and get medical attention.

After skin contact: rinse the skin with plenty of soap and water.

After eye contact: immediately rinse the eyes with running water for at least 15 minutes while holding the eyelid wide open. Consult an ophthalmologist.

After ingestion: consult a doctor immediately because ammonium nitrate is toxic after swallowing.

### 4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

In case of eye contact, irritation may occur.

### 4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

#### AFTER INHALATION

Immediately remove the affected person from the contaminated environment. Provide fresh air. In case of a suspicion of poisoning with nitrogen oxides, even if there are no symptoms, immediately send the person to hospital.

#### AFTER INGESTION

Give plenty of water with milk, induce vomiting. Call a doctor immediately.

#### AFTER SKIN CONTACT

Rinse the skin with plenty of water; immediately take off the contaminated clothes. If the skin irritation persists, consult a dermatologist.

#### AFTER EYE CONTACT

Rinse the eyes with plenty of water for at least 10 minutes while holding the eyelid wide open. Consult an ophthalmologist.

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## 5. FIREFIGHTING MEASURES

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### 5.1 EXTINGUISHING MEDIA

The substance is not highly flammable. In case of fire, ammonium nitrate must be intensively cooled down by sprinkling with water or, if possible, remove it from the fire zone. Firefighters should be equipped with suitable respiratory protection because ammonium nitrate - after heating - may decompose to nitrogen oxides and ammonia.

**SUITABLE EXTINGUISHING MEDIA:** The only effective way of stopping the decomposition or fire is to use plenty of water acting as a cooling and dissolving agent. The application of other extinguishing media is not very effective.

**UNSUITABLE EXTINGUISHING MEDIA:** Do not use dense streams of water onto the surface of a burning substance.

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Ammonium nitrate, being a constituent of saletrosan, is a strong oxidant and non-flammable substance, however it keeps the fire burning; after heating and with hindered heat exchange with the environment, the product may decompose with energy emission. If the decomposition occurs in closed space, the risk of explosion is very high. In case of fire, the following are generated: dangerous vapours, ammonia and nitrogen oxides. The packaging subject to fire and high temperature should be cooled with water and, if possible, removed from the hazardous area.

### 5.3 ADVICE FOR FIREFIGHTERS

In case of higher concentrations of vapours and dusts, use self-contained breathing apparatus.

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## 6. ACCIDENTAL RELEASE MEASURES

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### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

#### 6.1.1 For non-emergency personnel

Avoid contact with the fertilizer dust. Use protective working clothes and protective gloves and in case of dust – respiratory protection.

#### 6.1.2 For emergency responders

Avoid contact with the fertilizer dust. Use protective working clothes and protective gloves and in case of dust – respiratory protection, see Section 4.

### 6.2 ENVIRONMENTAL PRECAUTIONS

Do not allow to contaminate ground water, do not wash away to sewerage wells. Protect sewerage wells. In case of contaminating waters, inform relevant authorities.

### 6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

**Small spills or leaks:** pump out or collect the product and place it in a specially assigned and labelled container for wastes. Flush the contaminated surface with plenty of water. Do not collect the spilled product with sawdust or any other flammable material.

**Big spills or leaks:** pump out or collect the product and place it in a specially assigned and labelled container for wastes. Send the product to a recovery process. Flush the contaminated surface with plenty of water. If a big amount of the spilled product gets to surface waters, inform relevant authorities. Do not collect the spilled product with sawdust or any other flammable material.

### 6.4 REFERENCE TO OTHER SECTIONS

Section 8 of this Safety Data Sheet.

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## 7. HANDLING AND STORAGE

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In addition to information given in this Section, relevant information may also be found in Section 8.

### 7.1 PRECAUTIONS FOR SAFE HANDLING

Saletrosan - mineral fertilizer – use according to its purpose.

### 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Protect from moisture, precipitation, direct sunlight and heating above 30°C. Do not store with chemicals and highly flammable substances which may react with the product (see Section 10 of this Safety Data Sheet).

Store in clean and dry warehouses protecting the product against dampness soaking through the ground. Due to low resistance of the product to the direct sunlight, precipitation and temperature changes, it must not be stored under shelters or in stockpiles. Eliminate sources of ignition; do not perform any work with open fire.

Damaged bags should be stored separately. It is recommended to leave empty space between the piles to allow access for inner transportation to each pile. Flexible containers containing the fertilizer with mass not exceeding 500 kg should be stored in maximum two layers.

### 7.3 SPECIFIC END USE(S)

No data.

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## 8. EXPOSURE CONTROLS /PERSONAL PROTECTION

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### 8.1. CONTROL PARAMETERS

Substance	TWA	STEL	TLV-C

other non-poisonous industrial dusts, including free (crystalline) silica below 2%	10 mg/m <sup>3</sup>	not determined	not determined
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Pursuant to legal regulations specified under Section 15.

**Personnel: long-term exposure – systemic effects**

DNEL Skin 21.3 mg/kg bodyweight

DNEL Inhalation 37.6 mg/m<sup>3</sup>

**Population: long-term exposure – systemic effects**

DNEL Skin 12.8 mg/kg bodyweight

DNEL Inhalation 11.1 mg/m<sup>3</sup>

DNEL Oral 12.8 mg/kg bodyweight

## 8.2. EXPOSURE CONTROLS

### 8.2.1 Appropriate engineering controls

This information shall complement that already given under Section 7.

Ventilation in closed facilities. General regulations on occupational hygiene are binding. Measurement of dust concentration in the workplace.

### 8.2.2 Individual protection measures, such as personal protective equipment

- a) **Eye / face protection:** safety glasses
- b) **Skin protection:** necessary – protective clothing
  - **hand protection:** necessary – protective gloves
  - **other**
- c) **Respiratory protection:** necessary, in case of dust – protective dusk-mask, respirator
- d) **Thermal hazards:** not applicable

### 8.2.3 Environmental exposure controls

Concentration measuring and sewage discharge monitoring. Do not discharge into the environment more sewage than it is allowed according to legal and administrative regulations.

Admissible pollution of inland surface waters:

Ammonium nitrogen

1st purity class – 1.0 mg N-NH<sub>4</sub>/l

2nd purity class – 3.0 mg N-NH<sub>4</sub>/l

3rd purity class – 6.0 mg N-NH<sub>4</sub>/l

Nitrate nitrogen

1st purity class – 5.0 mg N-NO<sub>3</sub>/l

2nd purity class – 7.0 mg N-NO<sub>3</sub>/l

3rd purity class – 15.0 mg N-NO<sub>3</sub>/l

PNEC – for estuarine water 0.45 mg/l

PNEC – for marine water 0.045 mg/l

PNEC – for short-term exposure 4.5 mg/l

PNEC – for micro-organisms in sewage treatment plants 18 mg/l

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

<b>APPEARANCE</b>	Solid – brown or beige granules (20°C)
<b>ODOUR</b>	Odourless or ammonia smell
<b>ODOUR THRESHOLD</b>	No data
<b>pH</b>	(aqueous solution 10g/100ml) > 4.5
<b>MELTING POINT/FREEZING POINT</b>	160-170°C (for ammonium nitrate)
<b>INITIAL BOILING POINT AND BOILING RANGE</b>	210°C at the pressure of 11 mmHg for pure ammonium nitrate
<b>FLASH POINT</b>	Non-flammable substance
<b>EVAPORATION RATE</b>	No data
<b>FLAMMABILITY (solid, gas)</b>	Non-flammable
<b>UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMIT</b>	No data
<b>VAPOUR PRESSURE</b>	No data
<b>VAPOUR DENSITY</b>	about 2.8 (for ammonium nitrate) (air -1)
<b>RELATIVE DENSITY</b>	No data
<b>SOLUBILITY</b>	Easily soluble in water 1900 g/l (at 20°C for ammonium nitrate)
<b>PARTITION COEFFICIENT: n-octanol/water</b>	No data (inorganic substance)
<b>AUTO-IGNITION TEMPERATURE</b>	Not applicable
<b>DECOMPOSITION TEMPERATURE</b>	> 210°C
<b>VISCOSITY</b>	No data
<b>EXPLOSIVE PROPERTIES</b>	The product does not have explosive properties.

**OXIDIZING  
PROPERTIES**

Strong oxidant (ammonium nitrate)

**9.2. OTHER INFORMATION**

None

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**10. STABILITY AND REACTIVITY**

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**10.1 REACTIVITY**

Moisture, high temperature, sunlight.

**10.2 CHEMICAL STABILITY**

Saletrosan is a stable product if storage conditions are met as per Section 7 of this Safety Data Sheet.

**10.3 POSSIBILITY OF HAZARDOUS REACTIONS**

Dangerous reactions are possible with substances mentioned under heading 10.5 and at higher temperatures - decomposition to nitrogen oxides and ammonia.

**10.4 CONDITIONS TO AVOID**

The substance keeps oxidation and the fire burning. The following factors intensify fire and explosion hazard: higher temperature, high pressure, hermetic rooms, presence of organic substances, catalytic influences and strong detonators.

**10.5 INCOMPATIBLE MATERIALS**

Steel, metals as powders, alkaline metals, metal oxides, non-metals, carbides, flammable substances, nitrites, lyes, acids, ammonium compounds, organic substances, chlorates, aluminium as a powder, sulfides, sawdust, engine fuels and lubricants, oils and lubricants, straw, materials incompatible for cooperation: metals and steel. Humid product may cause metal corrosion.

**10.6 HAZARDOUS DECOMPOSITION PRODUCTS**

Nitrogen oxides and ammonia and - during strong heating to the temperature over 280°C - violent decomposition with the emission of ammonia, sulphur trioxide, caustic and toxic gases may occur.

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**11. TOXICOLOGICAL INFORMATION**

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**11.1 INFORMATION ON TOXICOLOGICAL EFFECTS**

The substance is not classified as toxic. In higher concentrations breathing in dusts results in coughing and sore throat. It is irritant to the skin and causes allergy. Contact with the skin induces itching. Contact with eyes produces reddening and ophthalmalgia. In case of oral poisoning it absorbs well through digestive tract (it is partly reduced in stomach and bowels to more toxic nitrite). It irritates mucosa of digestive tract. Big oral doses induce dizziness, abdominal pain, vomiting, weakness.



**Acute toxicity**

Acute toxicity: LD<sub>50</sub> > 2000 mg/kg (for ammonium nitrate (V)).

Inhaling a big amount of the dusts is accompanied by the generation of methaemoglobin, heart arrhythmia, headache, drop in blood pressure; decomposition products may cause oedema of respiratory tract.

LD<sub>50</sub> (digestive tract exposure): 2950 mg/kg bodyweight

LD<sub>50</sub> (skin exposure): 5000 mg/kg bodyweight

Acute toxicity, respiratory tract exposure are not assessed because the vapour pressure is too low while the size of ammonium nitrate molecule excludes the possibility of absorption in pulmonary alveoli.

**Irritation**

Causes serious eye irritation (H319), eye reddening is a symptom.

**Corrosivity**

The substance is not corrosive.

**Sensitisation**

Respiratory or skin sensitisation

Skin: no sensitisation

Respiratory system: no data

**Repeated dose toxicity**

1) Repeated dose toxicity: oral exposure

No available tests for repeated dose toxicity for ammonium nitrate NOAEL KNO<sub>3</sub>: 256 mg/kg bodyweight

2) Repeated dose toxicity: inhalation NOAEC: 185 mg/m<sup>3</sup>

3) Repeated dose toxicity: skin

No skin tests.

**Carcinogenicity**

The substance is not classified as a carcinogen.

There is some evidence showing the possibility of forming of N-nitrous compounds in food and tissues which contain excess of nitrates/nitrites. N-nitrous compounds are known to be potentially mutagenous/carcinogenic. Bacteria present in saliva decompose nitrates to harmless acid.

**Mutagenicity**

Genetic toxicity: negative result

**Toxicity for reproduction**

No data for ammonium nitrate.

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**12. ECOLOGICAL INFORMATION**

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**12.1 TOXICITY**

Saletrosan is used as a mineral fertilizer. The product is locally hazardous after entering waters. Toxic to aquatic organisms. Excessive inflow to waters results in their eutrophication. Toxicity of ammonium salts for fish is considerably smaller than that of free ammonia, but symptoms are similar. In the amount of 500 mg/dm<sup>3</sup> both ammonium nitrate and ammonium sulphate kill carps.

**Toxicity for fish, aquatic invertebrates algae and cyanobacteria, water plants other than algae, microorganisms**

LC50/48h fish: *Cyprinus carpio* 447 mg/l; short-term

EC50/24h/48h Crustaceans: *Daphnia magna* 490 mg/l; short-term

EC50/10d KNO<sub>3</sub> test for Algae: numerous benthos diatoms >1700 mg/l

**12.2 PERSISTENCE AND DEGRADABILITY**

After diluting and longer period of time, ammonium nitrate is biologically decomposed – it is assimilated by plant organisms as a fertilizer. Ammonium salts decompose in aquatic environment with the emission of gaseous ammonia. Degree of dissociation depends on pH and temperature.

**12.3 BIOACCUMULATIVE POTENTIAL**

Simple inorganic salts which are easily water-soluble, in an aqueous solution are in a dissociated form. Such substances have bioaccumulative potential.

**12.4 MOBILITY IN SOIL**

Easily dissolves in water. Do not allow it to enter potable water intakes, wastewater and soil. Soil contaminated with ammonium nitrate is unsafe for drinking.

**12.5 RESULTS OF PBT AND vPvB ASSESSMENT**

Further to Annex XIII to Regulation (EC) No. 1907/2006, the assessment of persistent, bioaccumulative and toxic criteria (PBT) as well as very persistent and very bioaccumulative criteria (vPvB) have not been carried out because ammonium nitrate is an inorganic compound.

**12.6 OTHER ADVERSE EFFECTS**

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

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**13. DISPOSAL CONSIDERATIONS**

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**13.1 WASTE TREATMENT****DESCRIPTION OF WASTES**

Packaging after the used product. Soil and water contaminated with the substance as well as other materials used for the absorption of the substance after the breakdown or accident.

### **GENERAL INFORMATION ON SAFE HANDLING OF WASTES**

If wastes are generated during transportation or (un)loading, the spilled product must be collected into non-flammable containers and – if it is not mixed with flammable substances – used as a fertilizer. If it is mixed with flammable substances, dissolve it in water and use the solution as a fertilizer. Do not allow to contaminate ground waters.

### **APPROPRIATE METHODS OF DISPOSAL OF WASTES AND CONTAMINATED PACKAGING**

product – use as a fertilizer

packaging – dispose as per symbols on the packaging

Pursuant to legal regulations specified under Section 15, heading 4.

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## **14. TRANSPORT INFORMATION**

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Saletrosan 26 macro is not subject to RID or ADR regulations.

### **14.1 UN NUMBER**

Not applicable

### **14.2 UN PROPER SHIPPING NAME**

Not applicable

### **14.3 TRANSPORT HAZARD CLASS(ES)**

Not applicable

### **14.4 PACKAGING GROUP**

Not applicable

### **14.5 ENVIRONMENTAL HAZARDS**

### **14.6 SPECIAL PRECAUTIONS FOR USERS**

Saletrosan must be transported in means of transport which protect the product against water, precipitation, direct sunlight and damage to the packaging. Terms and conditions of transportation according to PN-C-87010.

### **14.7 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 I AND THE IBC CODE**

Not applicable

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## **15. REGULATORY INFORMATION**

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### **15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE**

1. Regulation (EC) No. 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), with amendments including the changes introduced by Commission Regulation (EU) No. 453/2010 of 20th May 2011.
2. Regulation (EC) No. 1272/2008 of The European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006 – Official Journal of the European Union of 31st December 2008.
3. Commission Regulation (EU) No. 453/2010 of 20 May 2010 amending Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

### **15.2 CHEMICAL SAFETY ASSESSMENT**

The assessment of ammonium nitrate was done in the Chemical Safety Report submitted to ECHA (European Chemicals Association) when registering IS-Ammonium-Nitrate-6484-52-2.

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## **16. OTHER INFORMATION**

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### **AN EXPLANATION AND INDICATION OF WHERE CHANGES HAVE BEEN MADE TO THE PREVIOUS VERSION OF SAFETY DATA SHEET**

The Safety Data Sheet was updated due to changes of the Safety Data Sheet pattern and legal changes, inclusive of Commission Regulation (EC) No. 453/2010.

### **KEY OR LEGEND TO ABBREVIATIONS AND ACRONYMS USED IN THE SAFETY DATA SHEET**

CSR - Chemical Safety Report

EC<sub>50</sub> - Effective Concentration 50%

LC<sub>50</sub> - Lethal Concentration 50%

LD<sub>50</sub> - Lethal Dose 50%

NOAEL - The highest dose of a substance at which no harmful change is visible during the tests (No Observed Adverse Effect Level)

NOAEC - The highest concentration of a substance at which no harmful change is visible during the tests (No Observed Adverse Effect Concentration)

PBT - Persistent, Bioaccumulative and Toxic

REACH - Evaluation and Authorisation of Chemicals

vPvB - very Persistent and very Bioaccumulative

### **KEY LITERATURE REFERENCES AND SOURCES FOR DATA**

This Safety Data Sheet is compiled on the basis of Safety Report as well as experimental and theoretical data.

**OTHER INFORMATION**

FERTILIZERS CENTRE

Commercial Department: tel. +48/14/637-26-20 fax: +48/14/637-49-39

Technologist: tel. +48/14/637-41-09

**LIST OF RELEVANT HAZARD STATEMENT AND/OR PRECAUTIONARY STATEMENTS**

H272 - oxidizing solid, category 3

**ADVICE ON ANY TRAINING APPROPRIATE FOR WORKERS TO ENSURE PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT**

Before starting any work with the product, the user must acquaint himself with the health and safety regulations on handling the substance.

*END OF SAFETY DATA SHEET*