Section 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier
Trade name: K430

1.2. Relevant identified use of the substance or mixture and uses advised against: fertilizers for use in agriculture. Intended for professional users. Do not use for purposes other than intended.

1.3. Details of the supplier of the safety data sheet:
Producer / Distributor: UAB "IKARAI", Vakarų st. 6, Kėdainiai, LT-57238, phone +370 650 63038, www.ikarfactory.eu;
Entity responsible for the safety data sheet - UAB "IKARAI", e-mail: info@ikarfactory.eu

1.4. Emergency telephone number
Health emergency situations centre of the ministry of health, Poison Information Office 24/7:
Phone: +370 5 236 20 52 or +370 687 53378

Section 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture: under the provisions of regulation (EC) No 1272/2008, in view of the components and the content thereof as well as pH 11-12, the fertilizer is classified as follows:

GHS07

Physical hazards:	May be corrosive to metals,
Health hazards:	Skin irritation, hazard category 2, H315, Serious eye irritation, hazard category 2, H319 STOT SE 3, H335 (Respiratory irritation)
Environmental hazards:	not classified

2.2. Label elements according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms, signal word:

Warning

Hazard statements:
H315 Causes skin irritation.
H319 Causes serious eye irritation
H335 May cause respiratory irritation

Precautionary statements:
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
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.
P302+352 IF ON SKIN: Wash with soap and water.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P312 Call a POISON CENTRE/doctor/… 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.
P362 Take off contaminated clothing and wash before reuse.

P332+P313 If skin irritation occurs: get medical advice/attention
P337+P313 If eye irritation persists: get medical advice/attention
P321 Specific treatment (see … on this label).
P403+233 Store in a well ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container to ... (in accordance with local, regional, national and/or international regulation).

Additional information on hazards basis (EU): harmful if swallowed, Hazard Category 4, H302

2.3. Other hazards: the product does not contain PBT or vPvB criteria according Regulation (EC) No. 1272/2008, XIII Annex.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances: not applicable.

3.2. Mixtures: the product is a chemical substances mixture in water.
Hazardous components (ingredients):

Component	CAS No	EC No	Content, %	Classification under CLP regulation No 1272/2008/EB
Potash Reg. Nr. 01-2119532646-36-XXXX	584-08-7	209-529-3	40-60%	 Skin irritation, hazard category 2, H315, Eye irritation, hazard category 2, H319, STOT SE 3, H335 (may cause respiratory irritation)
*Urea [CH_4N_2O] Reg. No 01- 2119463277-33-xxxx	57-13-6	200-315-5	5-8	Not classified Substance with a Union workplace exposure limit
Disodium dihydrogen ethylenediaminetetraacetate Reg. No 01-2119486775-20-xxxx	139-33-3	205-358-3	1-2	 Acute toxicity, hazard category 4, H332; Harmful if inhaled; STOT RE 2, H373 ((respiratory sys.) (Inhalation).

*Limit values of the occupational exposure to the substance in air working environment are specified in section 8 of this safety data sheet. The meanings of hazard statements and pictograms are presented in Chapter 16 of this SDS.

Section 4. FIRST AID MEASURES

4.1. Description of first aid measures
4.1.1. First aid instructions by relevant routes of exposure:
General remarks: if experiencing any health symptoms and they persist: call a doctor immediately.
If inhaled: displace victim to fresh air. If unwanted symptoms emerged and do not go off, consult to the doctor/medics.

If on skin: remove/take off immediately all contaminated clothing and footwear. Wash the contaminated skin with large amount of water. Wash contaminated clothing before reuse. If unwanted symptoms emerged and do not go off, consult to the doctor/medics.
If in eyes: rinse the eyes with water for 15 minutes by keeping the eyelids raised. If possible, to take the contact lenses off. If redness or irritation do not go off, consult to the doctor/medics.
If swallowed: do not induce vomiting. Rinse mouth with water. If unwanted symptoms emerged and do not go off, consult to the doctor/medics. Show a doctor this safety data sheet, this product's package, or label.
Protective equipment of emergency responder: take care of your safety!

4.1.2. Advice in case of exposure:

a) **Immediate medical attention is required and if delayed effects can be expected after exposure:** get medical attention immediately if a medical condition occurs and does not resolve it. After exposure respiratory irritation and eye irritation can be expected. Ingestion may result in corrosive injury to the upper gastrointestinal tract.
b) **Movement of the exposed individual from the area to fresh air is recommended.**
c) **Removal and handling of clothing and shoes from the individual is recommended.**
d) **Personal protective equipment for first aid responders is recommended.**

4.2. Most important symptoms and effects, both acute and delayed:
Respiratory Irritation: upper airway irritation, may cause cough, redness of mouth and upper airways.
Skin Irritation: exposure to skin may cause redness, or irritation. Prolonged contact and occlusion may cause more severe symptoms. Damage is localized to contact areas. Repeated or prolonged contact may result in dermatitis
Eye Irritation: exposure to eyes may cause severe irritation and redness to the eye lids, conjunctiva. **Ingestion (Swallowing**): ingestion may result in corrosive injury to the upper gastrointestinal tract. Signs and symptoms include vomiting, blood in vomit, drooling, difficulty swallowing, pain with swallowing, abdominal pain. Hoarseness, cough, difficulty breathing are indicators of serious complications.

4.3. Indication of any immediate medical attention and special treatment needed: treat symptomatically. Major health hazard are local effects (pH- effect). In all cases of poisoning or other symptoms of sickliness, seek medical advice immediately and show this safety data sheet or fertilizer label.

Section 5. FIREFIGHTING MEASURES

General fire hazards: not flammable product. Displace all persons from the fire affected area.

5.1. Extinguishing media
Suitable extinguishing media: depend on actual fire situation. In case of fire, to use the drizzle of the sprayed water.
Unsuitable fire-extinguishing means: chemical fire extinguishers**,** foams, strong water flow.

5.2. Special hazards induced from the substance or mixture:
Hazardous combustion products: damaging smoke can emerge under the effect of high temperature which are comprised of fission/combustion products (carbon oxides) hazardous to health.

5.3. Advise for firefighters:
Special protective firefighting equipment: in case of fire use self-contained breathing apparatus, wear protective firefighter clothing.
Special extinction measures: displace containers from fireplace. If possible - do it without a risk. Use water spray to cool down unopened containers. Even the fire is extinguished - cool down the containers by pouring plenty of water. Prevent materials access to sewerage, surface water.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

6.1.1. For non-emergency personnel:

Protection equipment: avoid contact on skin or in eyes. Do not inhale the fumes. Any actions which endanger personnel and without special preparation are prohibited. Do not let outsiders and personnel without protective equipment in. Pursue safety measures described in section 7 and 8. Use personal protective equipment.
Emergency aid measures: ensure good ventilation. Displace victims from the contaminated territory. If unwanted symptoms emerged and do not go off, consult to the doctor/medics.
6.1.2. For emergency responders: all outside personnel should stand aside. Use recommended personal protective equipment described in section 8.

6.2. Environmental precautions: take care the liquid do not spread into the soil, surface water and sewer network. In case the product got into surroundings (sewer network, reservoir, soil, or air) - inform regional environmental protection department.

6.3. Methods and material for containment and cleaning up:
6.3.1. For isolation: restrict the entrance to contaminated territory. Stop the product leaking if it is safe.
6.3.2. For cleaning: small leakages: absorb the leak with a non-flammable, absorbent material. Use non-flammable materials, such as sand or soil while collecting the product and placing it in a suitable container for subsequent disposal.
Large leakages: remove them with a pump or a vehicle cistern vacuum pump into storage tanks. Collected, pumped, or absorbed materials should be put into special sealed containers and returned to the producer/supplier. The residue should be washed off with water.
6.3.3. Other information: ensure that the waste and contaminated materials are collected as soon as possible and removed from the working location in a properly marked container.

6.4. Reference to other sections: see section 8 regarding personal protection measures. See section 13 regarding waste management.

Section 7. HANDLING AND STORAGE

7.1. Precautions for safe handling:
Information regarding safe usage: use according to specified intended use. Eating, drinking, and smoking is prohibited during work. Working places should be well ventilated. Working clothes and personal safety measures should be worn (see section 8 of this SDL) Follow work safety regulations. Avoid contact with eyes and skin. Do not inhale the fumes. Wash hands before breaks and after work. Wash contaminated clothes prior to wearing them again.
Fire and explosion safety information: the product is non-flammable. Keep away from heat and ignition sources.

7.2. Conditions for safe storage, including any incompatibilities:
Requirements for storage premises and containers: keep in properly ventilated warehouses, sealed, mechanically durable and chemically resistant, properly marked packages. Do not store near food, drinks, or animal food. Do not store near heat, explosive materials, incompatible chemicals (e. g. alkalis), open fire, hot. Do not smoke in storage area. Do not keep near sources of self-ignition. Protect from direct sunlight. Keep in original packaging. The floor must be waterproof and easy to clean in storage premises.

7.3. Specific end use(s): keep all local regulations regarding equipment management and safe use. Keep the containers closed when not in use.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
8.1.1. Occupational exposure limits: for mixture components in air working environment under HN 23:2011 are as follows:

Component	CAS No.	Long-term exposure limit value (LTEL) mg/m^3	Short-term exposure limit value (STEL), mg/m^3
Potash	584-08-7	2	-
Urea [CH4N2O]	57-13-6	10	-

DNEL values:
Potassium carbonate (anhydrous):
USA - OSHA / Final PEL (TWA): 15 mg/m^3 (total); 5 mg/m^3 (inhaling).
10 mg/m^3 (inhaled); 3 mg/m^3 (breath).

EDTA 2Na CAS.: 139-33-3
1.5 mg/m^3 (Long term exposure/ for workers/(inhalation))
3 mg/m^3 (Acute/short term exposure/ for workers(inhalation))
0.6 mg/m^3 (Long term exposure/ for general population(inhalation))
1.2 mg/m^3 (Acute/short term exposure/ for general population(inhalation))

8.1.2. Biological limit values: any marginal values of biological effect determined in component part(s)

8.2. Exposure control
General information: follow general industry hygiene practice. Do not eat, drink, or smoke at work. Wash hands prior and after work.
8.2.1. Appropriate engineering controls: a well general and local exhaust ventilation.
8.2.2. Individual protection measures:
General information: use personal protection measures. Working clothes should be kept separately. Personal protection measures should be selected according to CEN standards and discussed with the personal protection measure supplier.
Eye and (or) face protection: in case of any spaying risk, wear eye protection goggles with side protection or a shield covering your face (sealed protective goggles, i.e.: EN 166).
Skin protection:
Hand protection: wear chemical materials resistant and liquid resistant protective gloves (EN 374).
Other skin protection: wear protective working clothing covering the whole of your body, which is resistant to acids. Rubber aprons and boots.
Respiratory protection: a good general exhaust ventilation. In case any aerosols, fog or vapor are present, and the ventilation is insufficient, wear breathing protection measures according to LST EN 149.
Personal hygiene measures: do not eat, drink, or smoke during use. Wash hands prior to breaks and after work. Wash contaminated clothes before reuse. Personal and working clothing should be kept separately.

8.3. Environmental exposure control: capture leakages and prevent them from spilling over, adhere to national emission regulations.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state :	Liquid
Colour:	colorless clear or slightly matte.
Odour:	Specific
Melting point, °C	Not applicable
Boiling point, °C	Not applicable
Flammability	Not flammable
Explosion limits: % vol.:	non-explosive mixture
Flash point °C:	Not applicable
Auto-ignition temperature, °C:	Does not self-ignite
Decomposition temperature, °C	Not applicable

Hydrogen ion index (pH)	11-12 (10% solution)
Kinematic viscosity, mm^2/s	Not applicable
Water solubility	100% in water
Partition coefficient n-octanol/water (log value)	Not applicable
Vapour pressure	Not applicable
Density, g/cm^3:	1,5
Relative vapour density	Not applicable

9.2. Other information: no data

Section 10. STABILITY AND REACTIVITY

10.1. Reactivity: the product is not reactive under normal usage, storage and transportation conditions.

10.2. Chemical stability: the product is stable whenever usual/normal storage, transportation and usage conditions are met.

10.3. Possibility of hazardous reactions: exothermic reaction with acids, reaction with lime.

10.4. Conditions to avoid: keep away from copper, brass, light metals.

10.5. Incompatible materials: avoid product contact with acids. Long term contact with aluminium, bronze, copper, lead, tin, zinc or other alkali metals or their alloys.

10.6. Hazardous decomposition products: carbon oxides (COx), potassium oxides. Exothermic reaction with acids

Section 11. TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
a) Acute toxicity: not classified.
b) Skin corrosion/irritation: can irritate (corrode) skin.
c) Serious eye damage/irritation: causes serious eye irritation
d) Respiratory or skin sensitisation: may cause upper airway irritation
e) Germ cell mutagenicity: none
f) Carcinogenicity: none
g) Reproduction toxicity: none
h) STOT-single exposure: none
i) STOT-repeated exposure: no information.
j) Aspiration hazard: no information.

Information on toxic effects of components:
Potassium carbonate, CAS No 584-08-7:
If swallowed: LD50 –1870 mg/kg (rat);
Inhaled: LC50 –>4,96 mg/l/4,5h (Rat);
Through the skin: LD50 –>2000 mg/kg (rabbit)

Urea, CAS No 57-13-6:
If swallowed: LD50 - 8470 m/kg (rats)

11.2. Information on other hazards:
11.2.1. Endocrine disrupting properties: no data available.
11.2.2. Other information: no data available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Potassium carbonate, CAS No 584-08-7:
LC50 fish –230 mg/l/96h (Bluegill sunfish);
LC50 fish –68 mg/l/96h (Rainbow trout);
EC50 Invertebrates: –430 mg/l/48h (Daphnia magna) (hard water);
EC50 Invertebrates –200 mg/l/48h (Daphnia pulex) (soft water).

Urea, CAS No 57-13-6:
LC50 fish: 99 mg/l/96h
EC50 invertebrates (Daphnia magna): 5240 mg/l

12.2. Persistence and degradability: NPD

12.3. Bioaccummulative potential: not expected.

12.4. Mobility in soil: not expected

12.5. Results of PBT and vPvB assessment: material or compound does not have PBT or vPvB features.

12.6. Endocrine disrupting properties: no data available.

12.7. Other adverse effects: large amounts in the aquatic environment may cause pH changes.

General provisions: adhere to general environment protection principles. It is forbidden to poor out the compound into open water sources.

Section 13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods:
Waste code: 02 01 08 (agrochemical wastes containing dangerous substances).
Managing contaminated packaging: packaging containing product residues is disposed of together with its wastes.
Packaging waste code:
15 01 02 (plastic packaging);
15 01 10 (packages containing residues of or contaminated by dangerous substances)

Section 14. TRANSPORT INFORMATION

Fertilizers are classified as dangerous goods for transport and are a subject to the requirements of the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR / RID), sea (IMDG / GMS) or air (CAO / IATA).

14.1. UN number or ID number: 1760

14.2. UN proper shipping name: CORROSIVE LIQUID, N.O.S (Potassium Carbonate)

14.3. Transport hazard class(es): 8 (corrosive substances), classification code C9 (other corrosive substances);

14.4. Packing Group: III

14.5. Danger to the environment: no

14.6. Hazard signs: No 8

14.7. Special precautions for user: hazard identification number 80

14.7. Maritime transport in bulk according to IMO instruments: not applicable
14.9. Information about standard UN regulations:
Hazardous cargo transportation by vehicles, rail and inland waterways (ADR/RID/ADN):

14.9.1. UN number:	1760.
14.9.2. UN correct cargo title:	CORROSIVE LIQUID, N.O.S (Potassium Carbonate)
14.9.3. Entry in transportation documents:	UN1760, CORROSIVE LIQUID, N.O.S (Potassium Carbonate), 8, III,
14.9.4. Transportation hazardousness class (es):	8.
14.9.5. Packages class:	III
14.9.6. Classification code:	C9
14.9.7. Hazard label(s):	8
14.9.8. Spec provisions (SP):	274
14.9.9. Excepted Quantities (EQ):	E1
14.9.10. Limited Quantities (LQ):	5 L
14.9.11. Transportation category (TC):	3
14.9.12. Tunnel restriction code (TRC):	E
14.9.13. Hazard identification No.:	80

Section 15. REGULATORY INFORMATION

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

- Regulation (EC) No 1782/2003 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH);
- Regulation (EC) No 1782/2003 of the European Parliament and of the Council 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures (CLP Regulation);
- Commission Regulation (EU) No 453/2010 partly amending the REACH Regulation;
- Commission Regulation (EU) No 830/2015 partly amending the REACH Regulation;
- Lithuanian Hygiene Norm HN 23-2011 “Limits for occupational exposure to substances. General requirements for measurement and impact assessment“;
- “Waste Management Regulations“ approved by order No.217 of the Minister of Environment of the Republic of Lithuania of 14 July 1999 (consolidated version of 06 December 2018);
- European Agreement on the International Carriage of Dangerous Goods by Road (ADR), 2015.
- Regulation of the European Parliament and of the Council (EC) No 2003/2003 on fertilizers.

15.2. Chemical safety assessment: not available.

Section 16. OTHER INFORMATION

Meanings of hazard statements and pictograms specified in section 3 of this safety data sheet:

GHS07

GHS07 Symbol “Exclamation Mark”
H315 Causes skin irritation
H319 Causes serious eye irritation
H335 May cause respiratory irritation
STOT SE 3, Specific target organ toxicity - single exposure, Hazard Category 3.

Additional information on hazards basis (EU): H302 Harmful if swallowed

Acronyms:
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
RID - Regulations Concerning the International Transport of Dangerous Goods by Rail.
IMDG - International Maritime Dangerous Goods Code.
IATA - The International Air Transport Association.
IMO - International Maritime Organization.
vPvB - very persistent and very bioaccumulative.
PBT - persistent, bioaccumulative and toxic.
LC50 - lethal concentration 50% of investigated population.
LD50 - lethal dose 50% of investigated population (median lethal dose).
CAS - Chemical Abstracts Service.
CEN - the European Committee for Standardization.
STOT - Specific toxicity for a specific body.
PNEC(s) - forecasted(s) the predicted no effect concentration(s).
SDL - Safety Data Sheet.

References to the most important literature and data sources:
- European chemicals bureau (ECB), European Chemicals Agency (ECHA), Swedish chemicals agency (KEM), International laboratory organization (ILO), TOXNET internet webpage provided data.
- Material Safety Data Sheets prepared by raw material suppliers.

Liability limiting condition:
This safety data sheet provides information, which should be accessible to all people, whose work is related with the product. This data represents the current level of knowledge, national and EU laws. Provided data specifies which safety requirements should be adhered to while using this product but does not specify other specific characteristics of the product.
This information is correct according to our knowledge at the date of the issue of the data sheet. This is not a specification sheet and any data provided in it should not be assessed as a specification. Information in this safety data sheet has been acquired form sources, which we assess as trustworthy. However, the information is provided without any guarantee, specified, or implied, related to the correctness of this information. The information, provided in this data sheet, together with conclusions, are based upon sources other than the product test data. Product management, storage, usage and utilization conditions or methods are beyond our control and we might not know of them. Because of this and other reasons we do not accept any responsibility and clearly reject and responsibility for the loss, damage, or expenses, related in any way to the management, storage, usage, or utilization of this product. If a product is used as a component of another product, the product safety data sheet is not valid.

Additional information is provided by UAB “IKARAI“.