Section 1: Identification of the substance / mixture and identification of the company

1.1 Product identification

Trade name: **LAGOON**

Chemical Name: not applicable, the product is a mixture

EC Number: Not applicable

Registration number: mixture - not subject to registration under REACH regulation

1.2 Relevant identified uses of the substance or preparation and uses advised against

Identified uses:
Plant protection herbicide in a concentrated form for the preparation of an aqueous solution, used to control annual dicotyledonous weeds in spring and winter cereals, and grasslands.

Uses advised against: any other than listed above

1.3 Details of the supplier of the safety data sheet

Supplier: **CIECH SARZYNA S.A.**

Address: ul. Chemików 1, 37-310 Nowa Sarzyna, Poland

Telephone/Fax: + 48 (17) 2407 416 between 7.00 - 15.00
+ 48 (17) 2407 122

e-mail address of the person responsible for this Material Safety Data Sheet: ZcsMsds@ciechgroup.com

1.4 Emergency telephone number

998 (fire service), 999 (rescue service), 112 (emergency)

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation No.1272/1272/EEC (as amended)

Acute tox. 4 - Acute toxicity, category 4. **H302** – Harmful if swallowed.
Eye dam. 1 - Serious eye damage, category 1. H318 - Causes serious eye damage.

2.2 Labelling

Hazard pictograms and warning phrase



DANGER

(Signs - black symbol on a white background with a red border.)

Product identification

LAGOON

This product contains:
MCPA 4-chloro-o-tolyloxyacetic acid as dimethylamine salt
(fenoxyacid group compound)

Hazard Statements:

H302 Harmful if swallowed.
H318 Causes serious eye damage.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary Statements:

P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
P301+P312 IF SWALLOWED: Contact POISON CENTRE or doctor/physician if 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.
P330 Rinse mouth.
P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non hazardous waste.

2.3 Other hazards

The mixture constituents do not meet the PBT or vPvB criteria according to Annex XIII of the REACH Regulation.

Section 3: Composition / information on ingredients

3.1 Substances

Not applicable.

3.2 Mixtures

Substance[1]:	Content [%]	Classification according to Regulation No. 1272/2008 (as amended)[2]
Dimethylamine salt MCPA Dimethylamine salt of 4-chloro-o-tolyloxyacetic acid Index number: 607-052-00-9 CAS Number: 2039-46-5 EC Number: 218-014-2 Registration No.: not applicable (Art. 15 of the REACH regulation)	approx. 54 %	**Acute Tox. 4** H332 **Acute Tox. 4** H312 **Acute Tox. 4** H302 **Aquatic Acute 1** H400 **Aquatic Chronic 1** H410

1) - Classification of the substance given in accordance with Tables 3.1 of Regulation No. 1272/2008 (as amended) - see Section 15.1 of this MSDS.

2) - Full text of abbreviations, symbols and H statements - see Section 16 of this MSDS.

Section 4: First-aid measures

4.1 Description of first aid measures

Contact with skin: immediately remove the contaminated clothing and shoes. Thoroughly wash the exposed parts of the skin with soapy water. If signs of irritation / sensitisation occur, consult a doctor.

Contact with eyes: immediately consult the ophthalmologist. Protect non-affected eye, remove contact lenses. Thoroughly wash contaminated eyes with water for 10-15 minutes. Avoid strong water jet as this poses risk of mechanical damage to cornea. After washing wear sterile eye patch.

Ingestion: call for medical assistance immediately and show the container or label. Do not induce vomiting. Thoroughly wash the mouth with water and drink plenty of water afterwards. Never give anything to drink to an unconscious person.

Inhalation: move the affected person to fresh air, provide warmth and rest. If any worrying symptoms develop seek medical attention.

4.2 Major acute and delayed symptoms and effects of exposure

Contact with skin: sensitive individuals may experience redness, dry skin, itching, rash or other skin lesions.

Contact with eyes: possible redness, lacrimation, burning sensation and pain

Swallowing: possible irritation of the digestive tract, abdominal pain and nausea

4.3 Indications for any immediate medical attention and special considerations for handling an affected person

Decision on suitable further treatment is made by the doctor after assessing the condition of the affected person. In severe intoxication give anti-liver damage drugs - control heart and circulatory system function. Antidote - none. Apply symptomatic treatment.

Section 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media: water spray, foam, carbon dioxide and dry powder. Adapt the extinguishing media to materials stored in the immediate vicinity.

Unsuitable extinguishing media: compact water jets.

5.2 Special risks associated with the substance or preparation

Combustion reaction produces dangerous vapours and gases containing carbon monoxide and hydrogen chloride. Avoid inhaling of combustion product as they can pose a threat to health.

5.3 Information for the fire service

General protection measures in case of fire. Do not stay in the area at risk of fire without proper clothing. Recommended personal protective equipment for the rescue services: full protective gear, self-contained breathing apparatus. Post-extinguishing waters should be handles as described in Section 6.2.

Section 6: Accidental release to the environment measures

6.1 Personal precautions, protective equipment and procedures in emergency situations

For the non-members of the emergency response team: restrict access of unauthorised persons to the affected area until all cleaning operations have been completed. Use personal protective equipment. Avoid contact with skin and eyes. Provide adequate ventilation.

For the members of the emergency response team: ensure that all activities were performed by trained personnel only. Wear protective clothing and personal protective equipment resistant to chemicals.

6.2 Environmental precautions

In case of release of large quantities of the mixture, take necessary steps to prevent spreading in the environment. Notify the relevant emergency services. Warn others of the hazard. Similar precautions should be also applied for the post-extinguishing water (Section 5).

6.3 Methods and materials to prevent spreading of the contamination and for removing the contamination

For large spills, embank the accumulating mixture and pump into suitable sealed and labelled containers and submit for recycling or disposal in accordance with the provisions of the Waste Act. In order to remove the remains and small amounts of spilled mixture use binding agent kits, if available, or diatomite or sand. Binding agent containing a mixture must be collected to suitable, sealed and labelled waste containers and submitted for recycling or disposal in accordance with the provisions of the Waste Act.

6.4 References to other sections

Product waste handling - see Section 13 of this MSDS.
Personal protective equipment - see Section 8 of this MSDS.

Section 7: Handling and storage of the substances and mixtures

7.1 Precautions for safe handling

Observe relevant occupational health and safety rules. Avoid eye and skin contamination. Remove contaminated clothing and protective equipment before entering eating areas. Before break and after work wash hands with soapy water. Keep the containers with mixture sealed.

7.2 Conditions for safe storage including any mutual incompatibilities

Store in original, sealed containers, in dry and ventilated storage rooms at temperatures from 0 to 30^0C. Keep away from food, feed, animal feed, dishes for food, in places inaccessible to unauthorized persons, especially children.
Follow the regulations, rules and recommendations for the storage of plant protection products. Take all necessary measures to prevent damage to the packaging or transfer systems that may result in accidental release of a mixture to drains, water bodies, rivers and soil.
Material suitable for packaging: HDPE (high density polyethylene), painted steel sheet.

Shelf-life of the mixture: 3 years.

7.3 Special end-uses

The mixture is a plant protection herbicide. **When applying the product on plants, follow the guidelines given in the label-instructions for use provided with the product.**

In the production process of the mixture, follow the guidelines given in the Material Safety Data Sheet and instructions relevant for the process.

Section 8: Exposure controls / personal protection

8.1 Control parameters

Maximum acceptable concentrations of the substance in the workplace in Poland for dimethylamine salt MCPA - not established, in accordance with Annex No. 1 of the Regulation of the Minister of Labour and Social Policy of 6 June 2014 on maximum acceptable concentrations and intensities of factors harmful to health in the workplace (Journal of Laws of 2014, item 817)

8.2. Exposure control

Follow general occupational health and safety rules. Use personal protective measures listed in Section 8.2.2. Do not eat, drink or smoke when using the substance. Wash hands thoroughly with soapy water before breaks and after work.

8.2.1. Appropriate technical control measures

Apply the procedures for monitoring the concentrations of hazardous substances in the air, as well as procedures for the air purity monitoring in the workplace - provided they are available and reasonable for a given function - in accordance with the relevant reference methods - standards in force in Poland. The mode, type and frequency of testing and measurements shall comply with the requirements set out in the Ordinance of the Minister of Health of 2 February 2011 on testing and measurement of factors harmful to health in the work environment (Journal of Laws, no. 33, item 166).

8.2.2. Personal protection measures, such as personal protective equipment

Personal protective equipment shall comply with the requirements of the Ordinance of the Minister of Economy of 21 December 2005 on the essential requirements for personal protective equipment (Journal of Laws no. 259, item 2173) and Regulation 426/2016. Employer shall provide protection measures appropriate to the activities, including their maintenance and cleaning.

a) Eye and face protection

Use protective glasses (goggles) or face protection.

b) Skin protection

Hand protection

Use suitable protective gloves (e.g. butyl or neoprene) resistant to chemical agents with a thickness of at least 0.4 mm, tested according to PN-EN 374 standard.

Body protection

Wear protective clothing and footwear suitable for the type of the performed activities. Soiled clothing should be regularly washed.

c) Respiratory protection

In well ventilated working areas personal respiratory protection is not required. In other cases, use half-respirators or respirators with filters that absorb vapours of organic compounds.

8.2.3 Environment exposure control

In order to limit the impact on the environment and human health, follow the recommendations of this MSDS. Do not contaminate water with the product or its packaging. Protect from releasing the product or its packaging into drains, water bodies, rivers, groundwater and soil. It is prohibited to recycle or dispose of the product, packaging and packaging waste outside systems or machines designed for this purpose, satisfying the requirements set out in the provisions of the Waste Act.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	clear liquid
colour:	brown
odour:	weak, characteristic for amines
odour threshold:	not determined
pH	8,0 – 10,0
melting/freezing point	approx. -10°C
initial boiling point:	> 100°C
ignition temperature:	> 100°C (closed cup PM)
evaporation rate:	Not applicable
flammability (solid, gas):	Not applicable
upper/lower explosion limit:	Not applicable
vapour pressure (25°C):	4,25 x 10^{-4} Pa (for MCPA)
vapour density:	not determined
specific density (20°C):	approx. 1,13 g/ml
partition coefficient: n-octanol/water:	log P_{ow}=1,9 (at pH 4); 1.09 (at pH 9) at 20 °C - the value for MCPA
self-ignition temperature:	does not auto-ignite
decomposition temperature:	Not applicable
viscosity (25 ° C):	not determined
explosive properties:	mixture is not explosive
oxidising properties:	does not demonstrate
solubility in water:	forms homogeneous solutions with water
solubility in organic solvents	
- valuesfor MCPA:	in xylene - 15,8 g/l in methanol - 621,0 g/l in 1,2-dichloroethane - 30,6 g/l in n-octanol - 205,0 g/l in acetone - 454,6 g/l in ethyl acetate - 258,4 g/l

9.2 Other information

surface tension (25°C): 31,0 mN/m

Section 10: Stability and reactivity

10.1 Reactivity

The mixture is stable under normal conditions of storage and use (Section 7.2).

10.2 Chemical stability

The product is stable when used and stored properly.

10.3 Possibility of hazardous reactions

None when handled in accordance with the intended use and conditions of use and when stored in the recommended conditions

10.4 Conditions to avoid

Avoid temperatures below 0°C.

10.5 Incompatible materials

Avoid contact with acids.

10.6 Hazardous decomposition products

None when used and stored as recommended - may occur in fire (see Section 5.2).

Section 11: Toxicological information

11.1 Information on toxicological effects

Information on the acute and/or delayed effects of exposure have been determined on the basis of toxicological studies.

Acute Toxicity
LD_{50} (orally) rat: >300 and < 2 000 mg/kg b.w.
LD_{50} (percutaneous) rat: > 2 000 mg/kg b.w.
LC_{50} (inhalation) rat after 4h from exposure >7 570 mg/m^3*

Primary skin irritation (rabbit)
Non irritant.
Primary eye irritation (rabbit)
Risk of serious damage to eyes.
Sensitization (guinea pig)*
The mixture does not show sensitization.
Carcinogenicity, mutagenicity and adverse effects on reproduction
The mixture is not mutagenic, carcinogenic or teratogenic.

* - results of tests performed with the product of similar composition

Section 12: Ecological information

12.1 Toxicity

Aquatic toxicity*

Acute toxicity to carp (Ciprinus carpio):	LC_{50} (after 96h) = 471 mg/l
Acute toxicity to rainbow trout (Salmo gairdneri):	LC_{50} (after 96h) > 100 mg/l
Acute toxicity to daphnia (Daphnia magna):	EC_{50} (after 48h) = 442 mg/l
Acute toxicity to algae (Chlorella pyrenoidosa):	IC_{50} (after 72h) = 644 mg/l
Acute toxicity to algae (Pseudokirchneriella subcapitata):	E_rC_{50} (after 72 h) > 320 mg/l
	E_yC_{50} (after 72 h) > 68,54 mg/l
	NOEC (after 72 h) = 10 mg/l
Acute toxicity for algae (Anabena flos-aquae):	E_rC_{50} (after 72 h) > 90,76 mg/l
	E_yC_{50} (after 72 h) > 65,81 mg/l

Toxicity to honeybees

Acute oral toxicity: LD_{50} (24 and 48 h after exposure) is 67,82 and 57,07 respectively µg product/bee

Acute contact toxicity: LD_{50} (24, 48 and 72 h after exposure) > 200 µg product/bee

Toxicity to lemna gibba (Lemna gibba L.)*

E_rC_{50} after 7 days: > 100 mg/l
E_yC_{50} after 7 days: 12,63 mg/l
NOEC/ 7 days (number of segments) = 1 mg/l

Toxicity to earthworms and effects on reproduction of earthworms

LC_{50} after 7 and 14 days is > 1000 mg/kg dry mass of substrate

* - results of tests performed with the product of similar composition

12.2 Persistence and degradability

MCPA

Biodegradability in water:	100% degradable after 16 days (OECD 302 B method)
Persistence in aquatic sediments	
DT_{50} (water + sediment system)	21,9 ÷ 25,1 days; (OECD 308 method)
Persistance in soil DT_{50}:	3,7 ÷ 7,1 days; (OECD 307 method)

12.3 Bioaccumulative potential

Bioconcentration in fish:

Active ingredient - MCPA present in the mixture is not bioaccumulative.

Bioconcentration factor for MCPA: BCF = 0,4
octanol/water coefficient – see Section 9,1.

12.4 Mobility in soil

MCPA is mobile in soil.

Equilibrium organic carbon adsorption coefficient (for MCPA): K_{oc} = 86,67 cm^3/g (for dusty soil)

12.5 Results of PBT and vPvB assessment

Substance in the mixture does not meet the PBT or vPvB criteria according to Annex XIII of the REACH Regulation.

12.6 Other harmful effects

The product does not affect global warming and ozone layer depletion.

Reference values for the substances (ingredients) in the air in accordance with Annex No. 1 of the Ordinance of the Minister of Environment of 26 January 2010 on the reference values for certain substances in the air (Journal of Laws No. 16, item 87) has not been established in Poland for the mixture component.

Section 13: Waste disposal

13.1 Methods of waste disposal

The holder of mixture waste and packaging waste is required to handle the waste in accordance with the principles of waste management specified in the Act on packaging and packaging waste, Act on waste and the environmental protection requirements.

The produced mixture waste and packaging waste must be stored, transported and recycled or disposed of in accordance with the provisions of the Waste Act and the related regulations.

The packaging must be emptied and rinsed three times with water, and the rinsings transferred to the sprayer tank with the liquid and treated as a usable liquid.

It is forbidden to use the emptied plant protection product packaging for other purposes. Unused plant protection product, as well as the contaminated packaging must be submitted to an authorized hazardous waste disposal company.

Classify waste using the appropriate names and codes in accordance with the applicable waste catalogue. Disposal of waste into the soil and earth, drains, rivers, water bodies is prohibited.

National legislation that meet the requirements of applicable directives of the European Union:
Act of 13 June 2013 on the packaging and packaging waste management (Journal of Laws of 2016, item 1863 as amended).
Act on waste of 14 December 2012 (Journal of Laws of 2016, item 1987).
Ordinance of the Minister of the Environment of 9 December 2014 on waste catalogue (Journal of Laws of 2014, item 1923).

Section 14: Transport information

14.1 UN Number

Not applicable. The mixture is not a hazardous material within the meaning of RID/ADR regulations.

14.2 UN correct shipping name

Not applicable.

14.3 Hazard class in transport

Not applicable.

14.4 Packing Group

Not applicable.

14.5 Environmental hazards

Not applicable.

14.6 Special precautions for users

When handling during the transport, use PPE in accordance with Section 8.

14.7 Bulk transport in accordance with Annex II of MARPOL 73/78 Convention and the IBC Code

Not applicable.

Section 15: Regulatory information

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

- Regulation (EC) No.1107/2009 of the European Parliament and of the Council of 21 October 2009 on marketing the plant protection products and repealing the Council Directives 79/117/EEC and 91/414/EEC (Official Journal of the EU L 309/1 of 24 November 2009).
- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 on the Registration, Evaluation, Authorisation 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/EC. (Official Journal of the EU L 396/1 of 30 December 2006 as corrected and amended).
- 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, as well as amending Regulation (EC) No 1907/2006 (Official Journal of the EU L 353/1 of 31 December 2008 as amended).
- Ordinance of the European Parliament and of the Council (EC) No. 1336/2008 of 16 December 2008 amending the Ordinance (EC) No. 648/2004 to adapt it to the Ordinance (EC) No. 1272/2008 on the

classification, labelling and packaging of substances and mixtures (Official Journal of the EU L 354/60 of 31 December 2008).

- - Commission Regulation (EC) No 790/2009 of 10 August 2009 adapting to scientific and technical progress Regulation of the European Parliament and of the Council (EC) no 1272/2008 of 16 December 2008 on the classification, labelling and packing of substances and mixtures (Official Journal of the EU L 235/52 of 5 September 2009).
- Commission Regulation (EC) No. 286/2011 of 10 August 2009 adapting to scientific and technical progress Regulation of the European Parliament and of the Council (EC) no. 1272/2008 of 16 December 2008 on the classification, labelling and packing of substances and mixtures (Official Journal of the EU L 83/1 of 30 March 2011).
- Ordinance of the European Parliament and of the Council (EC) No. 1005/2009 of 16 September 2009 on the ozone-depleting substances, (Official Journal of the EU L 286/1 of 31 October 2009 as amended).

15.2 Chemical Safety Assessment

Assessed as crop protection product.

Section 16: Other information

Explanation of the remaining abbreviations and acronyms

Acute Tox. 4 - Acute toxicity, category 4.
Eye dam. 1 - Serious eye damage, category 1.
Aquatic Acute 1 - Acute aquatic hazard, category 1.
Aquatic Chronic 1 - Chronic aquatic hazard, category 1.
Aquatic Chronic 3 - Chronic aquatic hazard, category 3.

H302 – Harmful if swallowed.
H312 - Harmful in contact with skin.
H332 - Harmful if inhaled,
H318 - Causes serious eye damage.
H400 – Very toxic to aquatic life.
H410 - Very toxic to aquatic life with long lasting effects.
H412 - Harmful to aquatic life with long lasting effects.

Training:

Prior to working with the product, the user shall read this Material Safety Data Sheet, occupational health and safety regulations relevant to handling of chemicals, and in particular, receive appropriate on the job training as required by the regulations - the Labour Code and the Act on plant protection products.

Sources of information:

- In-house studies: physicochemical, toxicological, ecotoxicological and impact on the environment for the product and active ingredient (MCPA),
- Web page: http://sitem.herts.ac.uk/aeru/footprint/pl/Reports/605.htm(data on this website have been collected as part of the EU-funded FOOTPRINT project).

Information assessment:

Assessment of the information identified in accordance with Chapter 1 of Title II of the CLP Regulation has been performed by applying the classification criteria for each hazard class, taking into account further differentiation as specified in Annex I of the CLP Regulation and **taking into account the results of the**

in-house studies carried out for the plant protection product. When assessing the available information for the purposes of classification, the form/physical state of the mixture was considered, as in the form in which the mixture is marketed and may be used in accordance with reasonable expectation.

Additional Information:

Further information may be obtained from the manufacturer - contact as in subsection 1.3.
This Material Safety Data Sheet has been prepared in accordance with Annex II to Commission Regulation (EC) no. 830/2015 of 28 May 2015 amending Regulation (EC) No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (Official Journal of the EU L 132/8 of 29.05.2015).

Information in this MSDS comprise our current knowledge and experience; had been provided in good faith in order to describe the mixture in terms of safety requirements. The information, however, cannot be interpreted either as a guarantee of the properties or a quality specification of the product. Regulations referenced in Section 15 and other sections of this Material Safety Data Sheet are applicable on the territory of Poland. The customer and user are responsible for the provision of safe workplace and compliance with all the applicable local regulations.

Commas appearing in numerical data denote a decimal point.

Revised sections: not applicable – 1st issue.