SECTION 1: Identification of the mixture and of the company

1.1. Product identifier
   Trade name: Folicist

1.2. Relevant identified uses of the substance or mixture and uses advised against
   Recommended use: Liquid fertiliser for agricultural use.

1.3. Details of the supplier of the safety data sheet
   Company: Biolchim spa - via San Carlo 2130 40059 Medicina (BO)
   Biolchim spa - tel +39 051 6971811
   NZ Supplier: Biolchim NZ Ltd - 74a Resolution Road, Welcome Bay Tauranga, 3112, New Zealand
   Competent person responsible for the safety data sheet: biolchim@biolchim.it

1.4. Emergency telephone number
   0800 CHEMCALL (0800 243 622)
   0800 POISON (0800 764 766)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
   Formulation does not have any hazardous properties.
   Exempt from the HSNO Act.
   Directive criteria, 67/548/CE, 99/45/EC and following amendments thereof:
   Properties / Symbols: None.
   EC regulation criteria 1272/2008 (CLP)
   The mixture is not classified as dangerous according to EC Regulation 1272/2008 (CLP):
   Adverse physicochemical, human health and environmental effects:
   No other hazards

2.2. Label elements
   Symbols: None
   Hazard statements: None
   Precautionary statements: None
   Special Provisions: None
   Special provisions according to Annex XVII of REACH and subsequent amendments: None

2.3. Other hazards
   vPvB Substances: None
   PBT Substances: None
   Other Hazards:
   No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances
   Identification of the substance:
   None.

3.2. Mixtures
Hazardous components within the meaning of EEC directive 67/548 and CLP regulation and related classification:
1% - 3% Citric acid
REACH No.: 01-2119457026-42-xxxx, CAS: 77-92-9, EC: 201-069-1
Xi; R36
⚠️ 3.3/2 Eye Irrit. 2 H319

SECTION 4: First aid measures

4.1. Description of first aid measures
Contact with skin:
Wash with plenty of water and soap.
Contact with eyes:
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Swallowing:
Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.
Inhalation:
Remove casualty to fresh air and keep warm and at rest.

4.2. Indication of any immediate medical attention and special treatment needed
Treatment:
None

4.3 Most important symptoms and effects, both acute and delayed
None

SECTION 5: Fire fighting measures

5.1. Extinguishing media
Recommended extinguishers:
Water, CO2, Foam, Chemical powders, according to the materials involved in the fire.
Carbon dioxide (CO2)
Extinguishing media which must not be used for safety reasons:
None in particular.

5.2. Special hazards arising from the combustion of substance or mixture
Do not inhale explosion and combustion gases.
Burning produces heavy smoke.

5.3. Advice for firefighters
Use suitable breathing apparatus.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear personal protection equipment.
Remove persons to safety.
See protective measures under point 7 and 8.

6.2. Environmental precautions from accidental spills and releases
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up accidental spills and releases
Wash with plenty of water.

6.4. Reference to other sections
See also section 8 and 13
SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid contact with skin and eyes, inhalation of vapours and mists.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities
Keep away from food, drink and feed.
Incompatible materials:
None in particular.
Instructions as regards storage premises:
Adequately ventilated premises.

7.3. Specific end use(s)
None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No occupational exposure limit available
DNEL Exposure Limit Values
N.A.
PNEC Exposure Limit Values
Citric acid - CAS: 77-92-9
  Target: Marine water - Value: 440 mg/l
  Target: Fresh Water - Value: 440 mg/l
  Target: Freshwater sediments - Value: 34.6 mg/l
  Target: Marine water sediments - Value: 34.6 mg/l
  Target: Soil (agricultural) - Value: 33.1 mg/kg

8.2. Engineering controls
  Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

8.3 Individual protection measures
Eye protection:
  Not needed for normal use. Anyway, operate according good working practices.
Protection for skin:
  No special precaution must be adopted for normal use.
Protection for hands:
  Not needed for normal use.
Respiratory protection:
  Not needed for normal use.
Thermal Hazards:
  None
Environmental exposure controls:
  None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Appearance and colour: Liquid, dark brown
Odour: Odourless
Odour threshold: Not Relevant
pH: 8.5 (sol.1%, 20°C)
Melting point / freezing point: Not Relevant
Initial boiling point and boiling range: Not Relevant
Solid/gas flammability: Not Relevant
Upper/lower flammability or explosive limits: Not Relevant
Vapour density: Not Relevant
Safety Data Sheet
Folicist

Flash point: Not Relevant
Evaporation rate: Not Relevant
Vapour pressure: Not Relevant
Relative density: 1.21 Kg/L (20°C)
Solubility in water: Soluble
Solubility in oil: Not Relevant
Partition coefficient (n-octanol/water): Not Relevant
Auto-ignition temperature: Not Relevant
Decomposition temperature: Not Relevant
Viscosity: Not Relevant
Explosive properties: Not Relevant
Oxidizing properties: Not Relevant

9.2. Other information
Miscibility: Mixable with water
Fat Solubility: Not Relevant
Conductivity: Not Relevant
Substance Groups relevant properties Not Relevant

SECTION 10: Stability and reactivity
10.1. Reactivity
Stable under normal conditions
10.2. Chemical stability
Stable under normal conditions
10.3. Possibility of hazardous reactions
None
10.4. Conditions to avoid
Stable under normal conditions.
10.5. Incompatible materials
None in particular.
10.6. Hazardous decomposition products
None.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Toxicological information of the main substances found in the mixture:
Citric acid - CAS: 77-92-9
a) acute toxicity:
   Test: Acute toxicity LD50 - Route: Oral - Species: Rat = 11700 mg/kg
   Test: Acute toxicity LD50 - Route: Intraperitoneal - Species: Rat = 725 mg/kg
   Test: Acute toxicity LD50 - Route: Oral - Species: Mouse = 5400 mg/kg
   Test: Acute toxicity LD50 - Route: Intraperitoneal - Species: Mouse = 940 mg/kg
   Test: Acute toxicity LD50 - Route: Intravenous - Species: Mouse = 42 mg/kg
   Test: Acute toxicity LD50 - Route: Cutaneous - Species: Rat > 2000 mg/kg
b) skin corrosion/irritation:
   Test: Skin Irritant - Species: Rabbit Negative
c) serious eye damage/irritation:
   Test: Eye Irritant - Species: Rabbit Positive
e) germ cell mutagenicity:
   Test: Mutagenicity Negative
f) carcinogenicity:
   Test: Carcinogenicity Negative
If not differently specified, the information required in Regulation 453/2010/EC listed below must be considered as N.A.:
a) acute toxicity;
b) skin corrosion/irritation;
SECTION 12: Ecological information

12.1. Toxicity
Adopt good working practices, so that the product is not released into the environment.

Citric acid - CAS: 77-92-9

a) Aquatic acute toxicity:
   - Endpoint: LC50 - Species: Fish = 440 mg/l - Duration h: 48
   - Endpoint: LC50 - Species: Daphnia = 1535 mg/l - Duration h: 24
   - Endpoint: LC50 - Species: Algae = 425 mg/l - Duration h: 168
   - Endpoint: LC50 > 10000 mg/l - Duration h: 16

12.2. Persistence and degradability
None

12.3. Bioaccumulative potential
N.A.

12.4. Mobility in soil
N.A.

12.5. Results of PBT and vPvB assessment
vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects
None

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Recover if possible. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number
Not classified as dangerous in the meaning of transport regulations.

14.2. UN proper shipping name
N.A.

14.3. Transport hazard class(es)
N.A.

14.4. Packing group
N.A.

14.5. Environmental hazards
N.A.

14.6. Special precautions for user
N.A.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
No

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Non-hazardous - exempt from HSNO Act
Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances)
Dir. 99/45/EC (Classification, packaging and labelling of dangerous preparations)
Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)
Dir. 2006/8/EC
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP)
Regulation (EU) n. 453/2010 (Annex I)
Regulation (EU) n. 286/2011 (ATP 2 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:
None

Where applicable, refer to the following regulatory provisions:
- Directive 2003/105/CE ("Activities linked to risks of serious accidents") and subsequent amendments.
- 1999/13/EC (VOC directive)

15.2. Chemical safety assessment
No

SECTION 16: Other information

Full text of phrases referred to in Section 3:
- R36 Irritating to eyes.
- H319 Causes serious eye irritation.

This safety data sheet has been completely updated in compliance to Regulation 453/2010/EU.
This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:
- ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities
- SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold
- CCNL - Appendix 1
- Insert further consulted bibliography

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.
This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CLP: Classification, Labeling, Packaging.
DNEL: Derived No Effect Level.
EINECS: European Inventory of Existing Commercial Chemical Substances.
GelStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
HSNO: Hazardous Substances and New Organisms (Act and Regulation)
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization"
(ICAO).
INCI: International Nomenclature of Cosmetic Ingredients.
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LTE: Long-term exposure.
PNEC: Predicted No Effect Concentration.
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE: Short-term exposure.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day.
(ACGIH Standard).
WGK: German Water Hazard Class.
N.A.: N.A.
N.D.: