SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

Product identifier:
Identification as on the label/Trade name: FULVIC ACID SOLUTION

Additional information:

Relevant identification uses of the substance and uses advised against:
Identified uses: Fertilizer.

Uses advised against: Use only as directed.

Details of the supplier of the Safety Data Sheet:
NULANDIS, A Division of AECI Limited
14 Field Road, LILIANTON

Emergency telephone numbers:
Griffon Poison information centre: 082 446 8946
Poisons Information Helpline: 0861 555 777
Nulandis: (011) 823 8000 (o/h) Spill Tech: 086 100 0366 (a/h)

SECTION 2. HAZARD IDENTIFICATION

Classification of the substances or mixture
The mixture is classified according to

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity oral, dermal, inhalation (Category 4)</td>
<td></td>
<td>H302, H312, H332</td>
</tr>
</tbody>
</table>

For full text of H statements see section 16

The most important adverse effects
The most important adverse physicochemical effects: None

The most important adverse human health effects: Harmful if swallowed, in contact with skin and inhaled.
Label elements

Hazard pictograms:

Signal Word: Warning

Hazard Statements: H302 + H312+ H332 Harmful if swallowed, in contact with skin or if inhaled.

Precautionary Statements: P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P264 Wash thoroughly after handling. P280 Wear protective gloves/ protective clothing/ eye protection/ face 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. P301 + P312 IF SWALLOWED: Call a POISON CENTRE or doctor/ physician if you feel unwell.

Special labelling of certain mixtures: None

Other hazards: None

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Ingredients:

<table>
<thead>
<tr>
<th>Substance name (IUPAC/EC)</th>
<th>CAS –No.</th>
<th>Concentration % by weight</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fulvic acid</td>
<td>479-66-3</td>
<td>5-15%</td>
<td>Acute toxicity oral, dermal, inhalation (Category 4) H302, H312, H332.</td>
</tr>
</tbody>
</table>

For full text of H statements and R phrases see section 16

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4. FIRST AID MEASURES

Description of first aid measures:

In case of inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

In case of skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

In case of eye contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

In case of ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention.
Most important symptoms and effects, both acute and delayed:

**Inhalation:** None known.

**Ingestions:** None known.

**Skin contact:** None known.

**Eye contact:** None known.

Indication of any immediate medical attention and special treatment needed:

None.

### SECTION 5. FIRE-FIGHTING MEASURE

**Extinguisher media:**

**Suitable extinguisher media:** Water, water fog or foam.

**SMALL FIRE:** No information.

**LARGE FIRE:** No information.

**Unsuitable extinguishing media:** None known.

**Special hazards arising from the mixture:**

No information.

**Advice for fire-fighters:**

Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Be sure to use an approved/certified respirator or equivalent.

### SECTION 6. ACCIDENTAL RELEASE

**Personal precautions, protective equipment and emergency procedures:**

For non-emergency personnel: Splash goggles, gloves.

For emergency responders:

**Environmental precautions:**

Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

**Methods for containment and cleaning up:**

For small spills Contain spilled material if possible. Collect in suitable and properly labelled containers. Absorb with materials such as: sand, earth, vermiculite or diatomaceous earth

For large spills Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in well labelled container for disposal according to local regulations.

**Reference to other sections:**

See section 7 for information on safe handling.

See section 8 for information on personal protection equipment.

See section 13 for information on disposal.

**Additional information:**
SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Protective measures: Observe directions on label and instructions for use.
Advice on general occupational hygiene: Do not eat, drink or smoke when handling this product.

Conditions for safe storage, including incompatibilities:
Store product in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use.

Specific end uses:
Use as directed. Use original container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Occupational exposure limits (OEL):
None

Biological exposure indices (BEI):
None

Additional exposure limits under the conditions of use:

Exposure control:

Appropriate engineering controls: None usually required.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Use safety glasses. If there is a potential for exposure to vapour which could cause eye discomfort, wear chemical goggles.

Hand protection: Use chemical resistant gloves. Examples of preferred glove barrier materials include Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, Polyvinyl alcohol, Polyvinyl chloride.

Body protection: A lab coat is required when handling this product.

Respiratory protection: Not required under normal use but is required when ventilation is inadequate or discomfort is experienced; use an approved air-purifying respirator. Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines.

Environmental exposure controls: Prevent product from entry into sewers and water courses.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (form): Liquid
Odour: No information available.

Odour threshold: No information available.

pH (at concentration): 4-6.5

Melting point/range (°C): No information available

Boiling point/range (°C): No information available

Flash point (°C): No information available.

Evaporation rate: No information available.

Flammability (solid, gas): No information available

Ignition temperature (°C): No information available.

Upper/lower flammability/explosive limits: No information available.

Vapour pressure (20°C): No information available.

Vapour density: No information available.

Density (20°C): 1.04

Water solubility (g/l) at 20°C: No information available.

n-Octanol/Water partition coefficient: No information available

Auto-ignition temperature: No information available.

Decomposition temperature: No information available.

Viscosity, dynamic (mPa s): No information available.

Physical hazards:

Explosive properties: No information available

Other information:

Fat solubility (solvent-oil to be specified): No information available.

Bulk density: No information available.
Dissociation constant in water (p Ka): No information available.

Oxidation-reduction potential: No information available.

**SECTION 10. STABILITY AND RELIABILITY**

**Reactivity:**
The product is stable under normal conditions.

**Chemical stability:**
Stable under normal storage conditions for 2 years.

**Possibility of hazardous reactions:**
When heated strongly it melts and decompose releasing toxic fumes. Violent reaction or explosion may occur in cases of confinement of the product.

**Conditions to avoid:**
None.

**Incompatible materials:**
Incompatible with strong acids or alkali and strong oxidizers.

**Hazardous decomposition products:**
Carbon monoxide and carbon dioxide.

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Toxicokinetics, metabolism and distribution:**

**Non-human toxicological data:** No Information available.

**Method:** No Information available.

**Dosage:** No Information available.

**Routes of administration:** No Information available.

**Results:** No Information available.

**Absorption:** No Information available.

**Distribution:** No Information available.

**Metabolism:** No Information available.

**Excretion:** No Information available.

**Information on toxicological effects:**

**Acute toxicity: Fulvic acid**
Acute toxicity oral LD$_{50}$ for rats 120 mg/kg.
Flunixin meglunime is of moderate to high toxicity via the oral route.
Ingestion of large quantities may cause hyper vitaminosis A, D, and E.
Chronic toxicity: No information available.

Skin corrosion/irritation: Fulvic acid is an eye irritant and most likely will also produce irritation of mucous membranes and the upper respiratory tract.

Serious eye damage/irritation: No information available.

Respiratory or skin sensitization: No information available.

Germ cell mutagenicity: No information available.

Carcinogenicity: No information available.

Reproductive toxicity: Fulvic acid may affect development of foetus. Caution to be taken for Child and pregnant women.

STOT-single exposure: No information available.

STOT-repeated exposure: No information available.

Aspiration hazard: No information available.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity:
No information available.

Persistence and degradability:
No information available.

Bioaccumulative potential:
No information available.

Mobility in soil
No information available.

Results of PBT & vPvB assessment:
No information available.

Other adverse effects:
No information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:
Treat as hazardous waste and dispose of in accordance with municipal, provincial and national regulations.
Product/ packaging disposal:
Containers must be triple rinsed with water, punctured and disposed of in specified landfill areas. Containers are not to be reused and should be punctured, flattened and transported to a facility for recycling or disposal in approved landfill site. Comply with any local legislation applying to disposal.

SECTION 14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th></th>
<th>Land transport (ADR/RID)</th>
<th>Sea transport (IMDG)</th>
<th>Air transport (ICAO/IATA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-Number</td>
<td>None</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>UN Proper shipping name:</td>
<td>None</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Transport hazard class:</td>
<td>None</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Packaging group:</td>
<td>None</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Marine pollutant:</td>
<td>None</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Special precautions for user:</td>
<td>None</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Transport in bulk according to MARPOL 73/78 Annex II and the IBC code</td>
<td>None</td>
<td>none</td>
<td>none</td>
</tr>
</tbody>
</table>

Inland waterways: None.
Emergency response information: None.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation for the mixture:
Relevant information regarding authorization: Occupational Health and Safety Act 1993 Regulation for Hazardous Chemical Substances.
ACGIH: American Conference of Governmental Industrial Hygienists (ACGIH)
Relevant information regarding restrictions:
EU regulations: Regulation EC 1272/2008 [EU-GHS/CLP] and EU directives 67/548/EEC or EC 1999/45/EC
SANS 10228:2012 - The identification and classification of dangerous goods for transport by road and rail modes.
Chemical Safety Assessment carried out? No

SECTION 16. OTHER INFORMATION

Indication of changes:
GHS aligned

Relevant classification and H statements (number and full text):
H302 + H312+ H332 Harmful if swallowed, in contact with skin or if inhaled.

Training instructions:
Use as indicated on the label, special training may be required for application.

Further information:
This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.
Notice to readers:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.