**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

1.1 **Product identifier:** Formic Acid 90%

Formula: HCOOH
Molecular weight: 46.03

1.2 **Relevant identified uses of the substance or mixture and uses advised against:**

Relevant uses: Chemical sample for use in laboratories. For professional user/industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3

1.3 **Details of the supplier of the safety data sheet:**

Scientific & Chemical Supplies Limited
Carlton House, Livingstone Road
WV14 0QZ Bilston - England
Phone.: +44 (0) 1902 402402 - Fax: +44 (0) 1902 402343
customerservices@scichem.com
www.scichem.com

1.4 **Emergency telephone number:** +44 (0) 7919 258 784

**SECTION 2: HAZARDS IDENTIFICATION**

2.1 **Classification of the substance or mixture:**

CLP Regulation (EC) No 1272/2008:
Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.

Acute Tox. 3: Acute inhalation toxicity, Category 3, H331
Acute Tox. 4: Acute toxicity if swallowed, Category 4, H302
Eye Dam. 1: Serious eye damage, Category 1, H318
Flam. Liq. 3: Flammable liquids, Category 3, H226
Skin Corr. 1A: Skin corrosion, Category 1A, H314

2.2 **Label elements:**

CLP Regulation (EC) No 1272/2008:

Danger

Hazard statements:
Acute Tox. 3: H331 - Toxic if inhaled
Acute Tox. 4: H302 - Harmful if swallowed
Flam. Liq. 3: H226 - Flammable liquid and vapour
Skin Corr. 1A: H314 - Causes severe skin burns and eye damage

Precautionary statements:
P210: Keep away from heat/sparks/open flames/hot surfaces. — No smoking
P280: Wear protective gloves/protective clothing/eye protection/face protection
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+P361+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P370+P378: In case of fire: Use ABC powder extinguisher to extinguish

**Substances that contribute to the classification**

FORMIC ACID

2.3 **Other hazards:**

Product fails to meet PBT/vPvB criteria

**Changes with regards to the previous version**

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

3.1 **Substance:**

**Changes with regards to the previous version**
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS ** (continued)

3.2 Mixture:

Chemical description: Organic compounds

Components:

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

<table>
<thead>
<tr>
<th>Identification</th>
<th>Chemical name/Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 64-18-6</td>
<td>Formic acid</td>
<td>Self-classified</td>
</tr>
<tr>
<td>REACH: 01-2119491174-37-0000</td>
<td>Acute Tox. 3: H331; Acute Tox. 4: H302; Flam. Liq. 3: H226; Skin Corr. 1A: H314; EUH071 - Danger</td>
<td></td>
</tr>
<tr>
<td>EC: 200-579-1</td>
<td></td>
<td>80 - &lt;100 %</td>
</tr>
<tr>
<td>Index: 607-001-00-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2015/830

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

Other information:

<table>
<thead>
<tr>
<th>Identification</th>
<th>Specific concentration limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>% (w/w) &gt;=90: Skin Corr. 1A - H314</td>
</tr>
<tr>
<td></td>
<td>10&lt;=% (w/w) &lt;90: Skin Corr. 1B - H314</td>
</tr>
<tr>
<td></td>
<td>2&lt;=% (w/w) &lt;10: Skin Irrit. 2 - H315</td>
</tr>
<tr>
<td></td>
<td>% (w/w) &gt;=10: Eye Dam. 1 - H318</td>
</tr>
<tr>
<td></td>
<td>2&lt;=% (w/w) &lt;10: Eye Irrit. 2 - H319</td>
</tr>
</tbody>
</table>

** Changes with regards to the previous version

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

Request medical assistance immediately, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Request immediate medical assistance, showing the SDS of this product. Do not induce vomiting, because its expulsion from the stomach can be hazardous to the mucus of the main digestive tract, and also risk damage to the respiratory system through inhalation. Rinse out the mouth and throat, as they may have been affected during ingestion. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Keep the person affected at rest.

4.2 Most important symptoms and effects, both acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of any immediate medical attention and special treatment needed:

Non-applicable

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media:

If possible use polyvalent powder fire extinguishers (ABC powder), alternatively use foam or carbon dioxide extinguishers (CO2). IT IS RECOMMENDED NOT to use full jet water as an extinguishing agent.
SECTION 5: FIREFIGHTING MEASURES (continued)

5.2 Special hazards arising from the substance or mixture:
As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

5.3 Advice for firefighters:
Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,…) in accordance with Directive 89/654/EC.

Additional provisions:
Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:
Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Destroy any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

6.2 Environmental precautions:
This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

6.3 Methods and material for containment and cleaning up:
It is recommended:
Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

6.4 Reference to other sections:
See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:
A.- Precautions for safe manipulation
Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions
Transfer in well ventilated areas, preferably through localized extraction. Fully control sources of ignition (mobile phones, sparks,…) and ventilate during cleaning operations. Avoid the existence of dangerous atmospheres inside containers, applying inertization systems where possible. Transfer at a slow speed to avoid the creation of electrostatic charges. Against the possibility of electrostatic charges: ensure a perfect equipotential connection, always use groundings, do not wear work clothes made of acrylic fibres, preferably wearing cotton clothing and conductive footwear. Comply with the essential security requirements for equipment and systems defined in Directive 2014/34/EC (ATEX 100) and with the minimum requirements for protecting the security and health of workers under the selection criteria of Directive 1999/92/EC (ATEX 137 / The Dangerous Substances and Explosive Atmospheres Regulations 2002, 2002 No. 2776). Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations to prevent ergonomic and toxicological risks
Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks
It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

7.2 Conditions for safe storage, including any incompatibilities:
A.- Technical measures for storage
Store in a cool, dry, well-ventilated location

B.- General conditions for storage
SECTION 7: HANDLING AND STORAGE (continued)

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):
Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:
Substances whose occupational exposure limits have to be monitored in the workplace (EH40/2005 Workplace exposure limits):

<table>
<thead>
<tr>
<th>Identification</th>
<th>Systemic</th>
<th>Local</th>
<th>Systemic</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
</tr>
<tr>
<td>CAS: 64-18-6</td>
<td>Dermal</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
</tr>
<tr>
<td>EC: 200-579-1</td>
<td>Inhalation</td>
<td>Non-applicable</td>
<td>19 mg/m³</td>
<td>Non-applicable</td>
</tr>
</tbody>
</table>

DNEL (Workers):

<table>
<thead>
<tr>
<th>Identification</th>
<th>Systemic</th>
<th>Local</th>
<th>Systemic</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
</tr>
<tr>
<td>CAS: 64-18-6</td>
<td>Dermal</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
</tr>
<tr>
<td>EC: 200-579-1</td>
<td>Inhalation</td>
<td>Non-applicable</td>
<td>9.5 mg/m³</td>
<td>Non-applicable</td>
</tr>
</tbody>
</table>

DNEL (General population):

<table>
<thead>
<tr>
<th>Identification</th>
<th>Systemic</th>
<th>Local</th>
<th>Systemic</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>Oral</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
</tr>
<tr>
<td>CAS: 64-18-6</td>
<td>Dermal</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
</tr>
<tr>
<td>EC: 200-579-1</td>
<td>Inhalation</td>
<td>Non-applicable</td>
<td>9.5 mg/m³</td>
<td>Non-applicable</td>
</tr>
</tbody>
</table>

PNEC:

<table>
<thead>
<tr>
<th>Identification</th>
<th>Systemic</th>
<th>Local</th>
<th>Systemic</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>Oral</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
</tr>
<tr>
<td>CAS: 64-18-6</td>
<td>Dermal</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
<td>Non-applicable</td>
</tr>
<tr>
<td>EC: 200-579-1</td>
<td>Inhalation</td>
<td>Non-applicable</td>
<td>9.5 mg/m³</td>
<td>Non-applicable</td>
</tr>
</tbody>
</table>

8.2 Exposure controls:

A.- General security and hygiene measures in the work place

In accordance with the order of importance to control professional exposure (Directive 98/24/EC) it is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding the occupational exposure limits. In case of using personal protective equipment it should have CE marking in accordance with Directive 89/686/EC. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,…) consult the information leaflet provided by the manufacturer. For additional information see subsection 7.1.

All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>PPE</th>
<th>Labelling</th>
<th>CEN Standard</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Filter mask for gases and vapours</td>
<td></td>
<td>EN 405:2001+A1:2009</td>
<td>Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.</td>
</tr>
</tbody>
</table>

C.- Specific protection for the hands

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>PPE</th>
<th>Labelling</th>
<th>CEN Standard</th>
<th>Remarks</th>
</tr>
</thead>
</table>
**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**

"As the product is a mixture of several substances, the resistance of the glove material can not be predicted in advance with total reliability and has therefore to be checked prior to the application"

### D. Ocular and facial protection

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>PPE</th>
<th>Labelling</th>
<th>CEN Standard</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="image">Mandatory face protection</a></td>
<td>Face shield</td>
<td></td>
<td>EN 166:2001, EN 167:2001, EN ISO 4007:2018</td>
<td>Clean daily and disinfect periodically according to the manufacturer’s instructions. Use if there is a risk of splashing.</td>
</tr>
</tbody>
</table>

### E. Body protection

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>PPE</th>
<th>Labelling</th>
<th>CEN Standard</th>
<th>Remarks</th>
</tr>
</thead>
</table>

### F. Additional emergency measures

<table>
<thead>
<tr>
<th>Emergency measure</th>
<th>Standards</th>
<th>Emergency measure</th>
<th>Standards</th>
</tr>
</thead>
</table>

### Environmental exposure controls:

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

### Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

- V.O.C. (Supply): 90 % weight
- V.O.C. density at 20 ºC: 1078 kg/m³ (1078 g/L)
- Average carbon number: 1
- Average molecular weight: 46.03 g/mol

---

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

### 9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

**Appearance:**
- Physical state at 20 ºC: Liquid
- Appearance: Not available
- Colour: Colourless
- Odour: Pungent
- Odour threshold: Non-applicable *

**Volatility:**
- Boiling point at atmospheric pressure: 101 ºC
- Vapour pressure at 20 ºC: 3900 Pa

*Not relevant due to the nature of the product, not providing information property of its hazards.*
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Vapour pressure at 50 ºC: 15646.86 Pa (15.65 kPa)
Evaporation rate at 20 ºC: Non-applicable *

Product description:
Density at 20 ºC: 1197.8 kg/m³
Relative density at 20 ºC: 1.198
Dynamic viscosity at 20 ºC: 1.64 cP
Kinematic viscosity at 20 ºC: 1.37 cSt
Kinematic viscosity at 40 ºC: Non-applicable *
Concentration: Non-applicable *
pH: Non-applicable *
Vapour density at 20 ºC: Non-applicable *
Partition coefficient n-octanol/water 20 ºC: Non-applicable *
Solubility in water at 20 ºC: Non-applicable *
Solubility properties: Non-applicable *
Decomposition temperature: Non-applicable *
Melting point/freezing point: Non-applicable *
Explosive properties: Non-applicable *
Oxidising properties: Non-applicable *

Flammability:
Flash Point: 49 ºC
Flammability (solid, gas): Non-applicable *
Autoignition temperature: 601 ºC
Lower flamability limit: Not available
Upper flamability limit: Not available

Explosive:
Lower explosive limit: Non-applicable *
Upper explosive limit: Non-applicable *

9.2 Other information:
Surface tension at 20 ºC: Non-applicable *
Refraction index: Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:
No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

10.2 Chemical stability:
Chemically stable under the conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:
Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:
Applicable for handling and storage at room temperature:

<table>
<thead>
<tr>
<th>Shock and friction</th>
<th>Contact with air</th>
<th>Increase in temperature</th>
<th>Sunlight</th>
<th>Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Risk of combustion</td>
<td>Avoid direct impact</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10.5 Incompatible materials:

<table>
<thead>
<tr>
<th>Acids</th>
<th>Water</th>
<th>Oxidising materials</th>
<th>Combustible materials</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Avoid direct impact</td>
<td>Not applicable</td>
<td>Avoid alkalis or strong bases</td>
</tr>
</tbody>
</table>
SECTION 10: STABILITY AND REACTIVITY (continued)

10.6 Hazardous decomposition products:
See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products.

SECTION 11: TOXICOLOGICAL INFORMATION **

11.1 Information on toxicological effects:
The experimental information related to the toxicological properties of the product itself is not available.

Dangerous health implications:
In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:
A- Ingestion (acute effect):
- Acute toxicity: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.
- Corrosivity/Irritability: Corrosive product, if it is swallowed causes burns destroying the tissues. For more information about secondary effects from skin contact see section 2.
B- Inhalation (acute effect):
- Acute toxicity: Inhalation after prolonged exposure may be lethal.
- Corrosivity/Irritability: Prolonged inhalation of the product is corrosive to mucous membranes and the upper respiratory tract
C- Contact with the skin and the eyes (acute effect):
- Contact with the skin: Above all, skin contact may occur as fabrics of all thicknesses can be destroyed, resulting in burns.
- Contact with the eyes: Produces serious eye damage after contact.
D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):
- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for the effects mentioned. For more information see section 3.
  - IARC: Non-applicable.
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
E- Sensitizing effects:
- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous with sensitising effects. For more information see section 3.
- Cutaneous: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
F- Specific target organ toxicity (STOT) - single exposure:
Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
G- Specific target organ toxicity (STOT)-repeated exposure:
- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.
H- Aspiration hazard:
Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect. For more information see section 3.

Other information:
Non-applicable

Specific toxicology information on the substances:
Formic Acid 90%

SECTION 11: TOXICOLOGICAL INFORMATION ** (continued)

<table>
<thead>
<tr>
<th>Identification</th>
<th>Acute toxicity</th>
<th>Genus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>LD50 oral 730 mg/kg</td>
<td>Rat</td>
</tr>
<tr>
<td>CAS: 64-18-6</td>
<td>LD50 dermal Non-applicable</td>
<td></td>
</tr>
<tr>
<td>EC: 200-579-1</td>
<td>LC50 inhalation 7.85 mg/L (4 h)</td>
<td>Rat</td>
</tr>
</tbody>
</table>

** Changes with regards to the previous version

SECTION 12: ECOLOGICAL INFORMATION **

The experimental information related to the eco-toxicological properties of the product itself is not available.

12.1 Toxicity:

<table>
<thead>
<tr>
<th>Identification</th>
<th>Acute toxicity</th>
<th>Species</th>
<th>Genus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>LC50 150 mg/L (96 h)</td>
<td>Danio rerio</td>
<td>Fish</td>
</tr>
<tr>
<td>CAS: 64-18-6</td>
<td>EC50 365 mg/L (48 h)</td>
<td>Daphnia magna</td>
<td>Crustacean</td>
</tr>
<tr>
<td>EC: 200-579-1</td>
<td>EC50 Non-applicable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability:

<table>
<thead>
<tr>
<th>Identification</th>
<th>Degradability</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>BOD5 Non-applicable</td>
<td>Concentration 18 mg/L</td>
</tr>
<tr>
<td>CAS: 64-18-6</td>
<td>COD Non-applicable</td>
<td>Period 28 days</td>
</tr>
<tr>
<td>EC: 200-579-1</td>
<td>BOD5/COD Non-applicable</td>
<td>% Biodegradable 97 %</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential:

<table>
<thead>
<tr>
<th>Identification</th>
<th>Bioaccumulation potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>BCF 1.2</td>
</tr>
<tr>
<td>CAS: 64-18-6</td>
<td>Pow Log</td>
</tr>
<tr>
<td>EC: 200-579-1</td>
<td>Potential Low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil:

<table>
<thead>
<tr>
<th>Identification</th>
<th>Absorption/desorption</th>
<th>Volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>Koc 31</td>
<td>Henry 1.9E-2 Pa m²/mmol</td>
</tr>
<tr>
<td>CAS: 64-18-6</td>
<td>Conclusion Very High</td>
<td>Dry soil Non-applicable</td>
</tr>
<tr>
<td>EC: 200-579-1</td>
<td>Surface tension 3.86E-2 N/m (25 ºC)</td>
<td>Moist soil Non-applicable</td>
</tr>
</tbody>
</table>

12.5 Results of PBT and vPvB assessment:
Product fails to meet PBT/vPvB criteria

12.6 Other adverse effects:
Not described

** Changes with regards to the previous version

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Waste class (Regulation (EU) No 1357/2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 03 05*</td>
<td>organic wastes containing hazardous substances</td>
<td>Dangerous</td>
</tr>
</tbody>
</table>

Type of waste (Regulation (EU) No 1357/2014):
HP3 Flammable, HP6 Acute Toxicity, HP8 Corrosive

Waste management (disposal and evaluation):
Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC, The Waste Regulations 2011, 2011 No. 988). As under 15 01 (2014/955/EU) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. We do not recommended disposal down the drain. See paragraph 6.2.

Regulations related to waste management:
SECTION 14: TRANSPORT INFORMATION **

Transport of dangerous goods by land:
With regard to ADR 2019 and RID 2019:

14.1 UN number: UN1779
14.2 UN proper shipping name: FORMIC ACID with more than 85% acid by mass
14.3 Transport hazard class(es): 8
   Labels: 8, 3
14.4 Packing group: II
14.5 Environmental hazards: No
14.6 Special precautions for user
   Special regulations: Non-applicable
   Tunnel restriction code: D/E
   Physico-Chemical properties: see section 9
   Limited quantities: 1 L
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:
   Non-applicable

Transport of dangerous goods by sea:
With regard to IMDG 39-18:

14.1 UN number: UN1779
14.2 UN proper shipping name: FORMIC ACID with more than 85% acid by mass
14.3 Transport hazard class(es): 8
   Labels: 8, 3
14.4 Packing group: II
14.5 Environmental hazards: No
14.6 Special precautions for user
   Special regulations: Non-applicable
   EmS Codes: F-E, S-C
   Physico-Chemical properties: see section 9
   Limited quantities: 1 L
   Segregation group: SGG1
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:
   Non-applicable

Transport of dangerous goods by air:
With regard to IATA/ICAO 2020:

14.1 UN number: UN1779
14.2 UN proper shipping name: FORMIC ACID with more than 85% acid by mass
14.3 Transport hazard class(es): 8
   Labels: 8, 3
14.4 Packing group: II
14.5 Environmental hazards: No
14.6 Special precautions for user
   Physico-Chemical properties: see section 9
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:
   Non-applicable

** Changes with regards to the previous version

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:
Regulation (EC) No 528/2012: contains a preservative to protect the initial properties of the treated article. Contains Formic acid.
Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable
Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable
Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable

- CONTINUED ON NEXT PAGE -
SECTION 15: REGULATORY INFORMATION (continued)

Article 95, REGULATION (EU) No 528/2012: Formic acid (Product-type 2, 3, 4, 5, 6, 11, 12)
REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

Seveso III:

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Lower-tier requirements</th>
<th>Upper-tier requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2</td>
<td>ACUTE TOXIC</td>
<td>50</td>
<td>200</td>
</tr>
<tr>
<td>P5c</td>
<td>FLAMMABLE LIQUIDS</td>
<td>5000</td>
<td>50000</td>
</tr>
</tbody>
</table>

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc): Non-applicable

Specific provisions in terms of protecting people or the environment:

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG 2009), SI 2009 No 1348
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations 2011, 2011 No. 1885
Control of Substances Hazardous to Health Regulations 2002 (as amended)
EH40/2005 Workplace exposure limits
The Waste Regulations 2011, 2011 No. 988

15.2 Chemical safety assessment:
The supplier has not carried out evaluation of chemical safety.

SECTION 16: OTHER INFORMATION **

Legislation related to safety data sheets:
This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (Regulation (EC) No 2015/830)

Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks:

COMPOSITION/INFORMATION ON INGREDIENTS (SECTION 3, SECTION 11, SECTION 12):
- New declared substances
  Formic acid (64-18-6)
- Removed substances
  Formic acid (64-18-6)

Substances that contribute to the classification (SECTION 2):
- New declared substances
  Formic acid (64-18-6)

CLP Regulation (EC) No 1272/2008 (SECTION 2, SECTION 16):
- Pictograms
- Hazard statements
- Precautionary statements

TRANSPORT INFORMATION (SECTION 14):
- UN number

Texts of the legislative phrases mentioned in section 2:
H314: Causes severe skin burns and eye damage
H318: Causes serious eye damage
H302: Harmful if swallowed
H331: Toxic if inhaled
H226: Flammable liquid and vapour

Texts of the legislative phrases mentioned in section 3:
The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

CLP Regulation (EC) No 1272/2008:
Acute Tox. 3: H331 - Toxic if inhaled
Acute Tox. 4: H302 - Harmful if swallowed
Flam. Liq. 3: H226 - Flammable liquid and vapour
Skin Corr. 1A: H314 - Causes severe skin burns and eye damage

Classification procedure:

** Changes with regards to the previous version **

Date of compilation: 18/06/2014 Revised: 16/03/2020 Version: 9 (Replaced 8)
**SECTION 16: OTHER INFORMATION ** (continued)

<table>
<thead>
<tr>
<th>Property</th>
<th>Calculation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corr. 1A</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Acute Tox. 4</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Acute Tox. 3</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Flam. Liq. 3</td>
<td>Calculation method (2.6.4.3)</td>
</tr>
</tbody>
</table>

**Advice related to training:**
Minimal training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

**Principal bibliographical sources:**
- http://echa.europa.eu
- http://eur-lex.europa.eu

**Abbreviations and acronyms:**
- ADR: European agreement concerning the international carriage of dangerous goods by road
- IMDG: International maritime dangerous goods code
- IATA: International Air Transport Association
- ICAO: International Civil Aviation Organisation
- COD: Chemical Oxygen Demand
- BOD5: 5-day biochemical oxygen demand
- BCF: Bioconcentration factor
- LD50: Lethal Dose 50
- LC50: Lethal Concentration 50
- EC50: Effective concentration 50
- Log-POW: Octanol-water partition coefficient
- Koc: Partition coefficient of organic carbon

**Changes with regards to the previous version**

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -