SECTION 1: Identification

1.1 Product identifier
Trade name
LF2100®

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses
Industrial use
Do not use for private purposes (household)

1.3 Details of the supplier of the safety data sheet
International Products Corporation
201 Connecticut Drive
Burlington, NJ
08016
United States
https://www.ipcol.com/
+1 6093868770

1.3.1 Additional information
Supplier (distributor)
Country
Name
Postal code/city
Telephone
E-Mail
Website
United Kingdom
IPCW
SE9 3TL London
+44 (0) 208-857-5678
saleseurope@ipcol.com
www.ipcol.com
e-mail (competent person)
tmcguckin@ipcol.com (Thomas P. McGuckin)

1.4 Emergency telephone number
1.4.1 Emergency information service
1-609-386-8770
This number is only available during the following office hours: Mon-Fri 08:00 AM - 04:30 PM, Eastern Time

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture
Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Section</th>
<th>Hazard class</th>
<th>Category</th>
<th>Hazard class and category</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.9</td>
<td>specific target organ toxicity - repeated exposure</td>
<td>2</td>
<td>STOT RE 2</td>
<td>H373</td>
</tr>
</tbody>
</table>

For full text of abbreviations: see SECTION 16.
The most important adverse physicochemical, human health and environmental effects
Delayed or immediate effects can be expected after short or long-term exposure.

2.2 Label elements
Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)
- Signal word warning
- Pictograms
  GHS08

Hazard statements.
  H373 May cause damage to organs through prolonged or repeated exposure.

- Precautionary statements
  P260 Do not breathe dust/fume/gas/mist/vapors/spray.
  P314 Get medical advice/attention if you feel unwell.
  P501 Dispose of contents/container to industrial combustion plant.

- Hazardous ingredients for labelling
  Tetrasodium ethylenediaminetetraacetate

2.3 Other hazards
  Hazards not otherwise classified
  Toxic to aquatic life (GHS category 2: aquatic toxicity - acute).

Results of PBT and vPvB assessment
  This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances
  Not relevant (mixture)

3.2 Mixtures
  Description of the mixture

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>Identifier</th>
<th>Wt%</th>
<th>Classification acc. to GHS</th>
<th>Pictograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>CAS No 64-02-8</td>
<td>10 – &lt; 25</td>
<td>Acute Tox. 4 / H302, Acute Tox. 4 / H332, Eye Dam. 1 / H318, STOT RE 2 / H373, Aquatic Acute 3 / H402</td>
<td></td>
</tr>
<tr>
<td>EO PO Isodecyl Alcohol</td>
<td>CAS No 37251-67-5</td>
<td>5 – &lt; 10</td>
<td>Skin Irrit. 2 / H315, Eye Dam. 1 / H318, Aquatic Acute 1 / H400, Aquatic Chronic 1 / H410</td>
<td></td>
</tr>
<tr>
<td>Citric Acid</td>
<td>CAS No 77-92-9</td>
<td>1 – &lt; 5</td>
<td>Acute Tox. 5 / H313</td>
<td></td>
</tr>
<tr>
<td>sodium hydroxide</td>
<td>CAS No 1310-73-2</td>
<td>0.1 – &lt; 1</td>
<td>Skin Corr. 1A / H314, Eye Dam. 1 / H318, Aquatic Acute 3 / H402, Aquatic Chronic 3 / H412</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes
Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact
Wash with plenty of soap and water.

Following ingestion
Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed
none

SECTION 5: Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing media
Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media
Water jet

5.2 Special hazards arising from the substance or mixture
Hazardous combustion products
Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters
Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
For non-emergency personnel
Remove persons to safety.

For emergency responders
Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.
6.2 Environmental precautions
   Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up
   Advice on how to clean up a spill
   Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: Sawdust, Kieselgur (diatomite), Sand, Universal binder
   Appropriate containment techniques
   Use of adsorbent materials.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling
   Recommendations
   - Measures to prevent fire as well as aerosol and dust generation
     Use local and general ventilation. Use only in well-ventilated areas.
   Advice on general occupational hygiene
     Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities
   - Specific designs for storage rooms or vessels
   - Storage temperature
     Recommended storage temperature: 2 – 43 °C

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
   This information is not available.

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Protection goal, route of exposure</th>
<th>Used in</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>64-02-8</td>
<td>DNEL</td>
<td>1.5 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - local effects</td>
</tr>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>64-02-8</td>
<td>DNEL</td>
<td>3 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - local effects</td>
</tr>
</tbody>
</table>
Relevant PNECs of components of the mixture

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Organism</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>64-02-8</td>
<td>PNEC</td>
<td>2.2 mg/l</td>
<td>aquatic organisms</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>64-02-8</td>
<td>PNEC</td>
<td>0.22 mg/l</td>
<td>aquatic organisms</td>
<td>marine water</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>64-02-8</td>
<td>PNEC</td>
<td>43 mg/l</td>
<td>aquatic organisms</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>64-02-8</td>
<td>PNEC</td>
<td>0.72 mg/kg</td>
<td>terrestrial organisms</td>
<td>soil</td>
<td>short-term (single instance)</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls
General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection
Wear eye/face protection.

Skin protection

- Hand protection
  Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures
  Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection
In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls
Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

<table>
<thead>
<tr>
<th>Physical state</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>clear-yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
</tr>
</tbody>
</table>
Other safety parameters

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (value)</td>
<td>9 – 9.9 (25 °C)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>-8 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>100 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>not relevant, (fluid)</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0 hPa at 25 °C</td>
</tr>
<tr>
<td>Density</td>
<td>1.16 – 1.18 g/ml at 25 °C</td>
</tr>
<tr>
<td>Vapor density</td>
<td>this information is not available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>not determined</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td></td>
</tr>
<tr>
<td>- n-octanol/water (log KOW)</td>
<td>this information is not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>not determined</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>- Kinematic viscosity</td>
<td>8.475 mm²/s at 25 °C</td>
</tr>
<tr>
<td>- Dynamic viscosity</td>
<td>10 cP at 25 °C</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>none</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>none</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1 Reactivity
Concerning incompatibility: see below “Conditions to avoid” and “Incompatible materials”.

10.2 Chemical stability
Shelf-life: Five years from the date of manufacture.

10.3 Possibility of hazardous reactions
No known hazardous reactions.
10.4 **Conditions to avoid**
Do not mix with other chemicals.

10.5 **Incompatible materials**
Avoid extended contact with uncured paint, zinc, aluminum, cold rolled steel, or copper and its alloys. Avoid contact with polycarbonate, polymethyl methacrylate, and polyphenylene oxide as these plastics may craze over time. Refer to product's compatibility sheets for further details.

10.6 **Hazardous decomposition products**
Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

---

**SECTION 11: Toxicological information**

11.1 **Information on toxicological effects**

**Basis of test data.**

**Classification procedure**
The classification is based on tested mixture.


**Acute toxicity**
Shall not be classified as acutely toxic.

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Exposure route</th>
<th>ATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>64-02-8</td>
<td>oral</td>
<td>1,913 mg/kg</td>
</tr>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>64-02-8</td>
<td>inhalation: dust/mist</td>
<td>1.5 mg/l/4h</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**
Shall not be classified as corrosive/irritant to skin.

**Serious eye damage/eye irritation**
Shall not be classified as seriously damaging to the eye or eye irritant.

**Respiratory or skin sensitization**
Shall not be classified as a respiratory or skin sensitizer.

**Germ cell mutagenicity**
Shall not be classified as germ cell mutagenic.

**Carcinogenicity**
Shall not be classified as carcinogenic.

**Reproductive toxicity**
Shall not be classified as a reproductive toxicant.

**Specific target organ toxicity - single exposure**
Shall not be classified as a specific target organ toxicant (single exposure).
Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity
Toxic to aquatic life.

Aquatic toxicity (acute) of components of the mixture

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>64-02-8</td>
<td>LC50</td>
<td>41 mg/l</td>
<td>fish</td>
<td>96 h</td>
</tr>
<tr>
<td>Tetrasodium ethylenediaminetetraacetate</td>
<td>64-02-8</td>
<td>EC50</td>
<td>140 mg/l</td>
<td>aquatic invertebrates</td>
<td>48 h</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability
Data are not available.

12.3 Bioaccumulative potential
Data are not available.

12.4 Mobility in soil
Data are not available.

12.5 Results of PBT and vPvB assessment
Data are not available.

12.6 Other adverse effects
Endocrine disrupting potential
None of the ingredients are listed.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Seewage disposal-relevant information
May be disposed according to local, state and federal regulations.

Waste treatment of containers/packages
Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks
Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.
SECTION 14: Transport information

14.1 UN number not assigned
14.2 UN proper shipping name not assigned
14.3 Transport hazard class(es) not assigned
14.4 Packing group not assigned
14.5 Environmental hazards non-environmentally hazardous acc. to the dangerous goods regulations
14.6 Special precautions for user
   There is no additional information.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Toxic Substance Control Act (TSCA)
   all ingredients are listed

Superfund Amendment and Reauthorization Act (SARA TITLE III)
   - The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)
     None of the ingredients are listed.
   - Specific Toxic Chemical Listings (EPCRA Section 313)
     None of the ingredients are listed

Clean Air Act
   None of the ingredients are listed.

Industry or sector specific available guidance(s)

NPCA-HMIS® III

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic</td>
<td>*</td>
<td>chronic (long-term) health effects may result from repeated overexposure</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>no significant risk to health</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
<td>material that must be preheated before ignition can occur</td>
</tr>
<tr>
<td>Physical hazard</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive</td>
</tr>
<tr>
<td>Personal protection</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

NFPA® 704
<table>
<thead>
<tr>
<th>Category</th>
<th>Degree of hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>1</td>
<td>material that must be preheated before ignition can occur</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions</td>
</tr>
</tbody>
</table>

### National inventories

<table>
<thead>
<tr>
<th>Country</th>
<th>National inventories</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>REACH Reg.</td>
<td>not all ingredients are listed</td>
</tr>
<tr>
<td>US</td>
<td>TSCA</td>
<td>all ingredients are listed</td>
</tr>
</tbody>
</table>

**Legend**

- REACH Reg.  REACH registered substances
- TSCA       Toxic Substance Control Act

#### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information, including date of preparation or last revision

### Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>49 CFR US DOT</td>
<td>49 CFR U.S. Department of Transportation</td>
</tr>
<tr>
<td>Acute Tox.</td>
<td>Acute toxicity</td>
</tr>
<tr>
<td>Aquatic Acute</td>
<td>Hazardous to the aquatic environment - acute hazard</td>
</tr>
<tr>
<td>Aquatic Chronic</td>
<td>Hazardous to the aquatic environment - chronic hazard</td>
</tr>
<tr>
<td>ATE</td>
<td>Acute Toxicity Estimate</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No-Effect Level</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval</td>
</tr>
<tr>
<td>Eye Dam.</td>
<td>Seriously damaging to the eye</td>
</tr>
<tr>
<td>Eye Irrit.</td>
<td>Irritant to the eye</td>
</tr>
<tr>
<td>GHS</td>
<td>“Globally Harmonized System of Classification and Labelling of Chemicals” developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport (IATA)</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
</tbody>
</table>
**Abbr.** | **Descriptions of used abbreviations**
--- | ---
LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50% lethality during a specified time interval
OSHA | Occupational Safety and Health Administration (United States)
PBT | Persistent, Bioaccumulative and Toxic
PNEC | Predicted No-Effect Concentration
RTECS | Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
Skin Corr. | Corrosive to skin
Skin Irrit. | Irritant to skin
STOT RE | Specific target organ toxicity - repeated exposure
vPvB | Very Persistent and very Bioaccumulative

**Key literature references and sources for data**

**Classification procedure**
The classification is based on tested mixture.

**List of relevant phrases (code and full text as stated in chapter 2 and 3)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H313</td>
<td>May be harmful in contact with skin.</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>H332</td>
<td>Harmful if inhaled.</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life.</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life.</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>H412</td>
<td>Harmful to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

**Disclaimer**
This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.