

**Techno Calc****CODE: 32105253****1 IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY**

Trade name : Techno Calc  
Type of product : Liquid.  
Use : Decalcifying cleaner for automatic dishwasher.  
Company identification : Ecover Belgium NV  
Industrieweg 3  
2390 Malle Belgium  
Phone : +32 (0)3 309 25 00  
Fax : +32 (0)3 311 72 70  
Emergency phone nr : +32 (0)70 245 245 (Antipoison Centre Belgium)  
Responsible for placing on the market : See address above.

**2 COMPOSITION / INFORMATION ON INGREDIENTS**

Substance / Preparation : Preparation.  
Composition : This product contains hazardous components (Directive 67/548/EEC).  
Regulation (CE) No. 648/2004 of 31 March 2004 on detergents:  
< 5% : - Amphoteric surfactants

Substance name	Contents	CAS No	EC No	Index No	Classification
Formic acid	: Between 10 and 100 %	64-18-6	200-579-1	607-001-00-0	C; R35
INCI	: FORMIC ACID				

**3 HAZARDS IDENTIFICATION**

Hazards identification : According to the Preparation Directive 1999/45/EC this product is classified as:  
C : Corrosive.  
Risk Phrases : R34 : Causes burns.  
Symptoms relating to use  
- Inhalation : Overexposure may cause : Sore throat. Cough.  
Shortness of breath. Respiratory oedema.  
- Skin contact : Corrosive.  
Redness, pain. Causes burns.  
- Eye contact : Corrosive. Redness, pain. Blurred vision.  
- Ingestion : Corrosive.  
Sore throat. Diarrhea. Abdominal pain.

**4 FIRST AID MEASURES**

First aid measures  
- Inhalation : Fresh air, rest in half sitting position. Seek medical advice.  
- Skin contact : Rinse affected area thoroughly with water to remove concentrated product.  
Remove contaminated clothing.  
Seek medical advice.  
- Eye contact : Rinse immediately and for at least 15 minutes with copious amounts of water (also  
assure adequate flushing under the eyelids and if possible after having removed  
contact lenses). Bring the victim to an ophthalmist.  
- Ingestion : Rinse mouth. Give water to drink. Do not induce vomiting because of corrosive  
effects. Take to hospital.  
Note to physician : Physical action reinforces the symptoms of oedema. Rest and transport to the  
hospital are required.  
Workplace equipment : Emergency eye wash fountains and safety showers should be available in the  
immediate vicinity of any potential exposure.

**Techno Calc****CODE: 32105253****5 FIRE-FIGHTING MEASURES**

- Specific hazards** : None.
- Extinguishing media**
- **Suitable extinguishing media** : All extinguishing media can be used.
  - **Unsuitable extinguishing media** : None.
- Protection against fire** : Do not enter fire area without proper protective equipment, including respiratory protection.
- Special procedures** : Exercise caution when fighting any chemical fire.

**6 ACCIDENTAL RELEASE MEASURES**

- Personal precautions** : Spill area may be slippery.  
Avoid contact with skin, eyes and clothes. Wear proper protective equipment.  
See Heading 8.
- Environmental precautions** : Avoid release to the environment. Prevent entry to sewers and public waters.
- Clean up methods** : Recover spilled material as much as possible in a clean container for reuse. Spilled product must be collected with sand or an inert absorbent material and dispose of as chemical waste. Rinse away remainder with water.

**7 HANDLING AND STORAGE**

- Protection against fire** : Not expected to be a fire/explosion hazard under normal conditions of use.
- Storage** : Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use.  
Keep away from acids.  
Strong alkalis.  
Oxidizing agent.
- Handling** : Avoid contact with skin and eyes.  
When using, do not eat, drink or smoke.

**8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

- Personal protection**
- **Skin protection** : Wear waterproof gloves when using or handling this product.  
Wear waterproof gloves and acid protective clothing when taking up intensively material which is accidentally released.
  - **Eye protection** : Wear safety goggles when clearing accidentally released material.
  - **Respiratory protection** : Ensure there is adequate ventilation.
- Environment protection see § 6**
- Occupational Exposure Limits** : Formic acid : MAC [mg/m<sup>3</sup>] : 9  
Formic acid : MAC [ppm] : 5

**9 PHYSICAL AND CHEMICAL PROPERTIES**

- Physical state at 20 °C** : Liquid.
- Colour** : Slightly yellow.
- Odour** : Odourless.
- pH value (concentrated product)** : 2
- Density** : 1,04 kg/l
- Viscosity at 25°C [mPa.s] (Brookfield LVT)** : <50
- Solubility in water** : Complete.
- Flash point [°C]** : >100
- Volatile Organic Compounds (%)** : 0

**Techno Calc****CODE: 32105253****9 PHYSICAL AND CHEMICAL PROPERTIES (continued)**

Explosion limits : None.  
Oxidising properties : None.

**10 STABILITY AND REACTIVITY**

Stability and reactivity : No decomposition under normal conditions of storage and use.  
Conditions to avoid : Do not store <0°C and >40°C.  
Materials to avoid : Do not mix with other cleaning products.  
Strong bases.  
Oxidizing agent.  
Metals.  
Acids.  
Hazardous decomposition products : None under normal conditions.

**11 TOXICOLOGICAL INFORMATION**

Skin irritation (RBC test: Denaturation Index) (ppm) : No data available.  
Eye irritatie (RBC test: Mean Indices Ocular Irritancy) : No data available.  
Evaluation of the security for the human health  
- Dermal : Corrosive.  
- Ocular : Corrosive.  
- Ingestion : Hardly toxic (LD 50 rat-oral-theoretic 500-5000 ppm).  
Toxicological effects mainly due to corrosive properties.  
Sensitization : To the best of our knowledge, this product contains no sensitizing raw materials.  
Note : Contains only ELINCS or EINECS registered raw materials and does not contain any ingredients known to be mutagenic, carcinogenic, teratogenic or reproduction toxic (R45,46,47,49,60,61,63,64, EU 97/C234, 67/548/EEC, 88/379/EEC, OSHA, NTP, IARC/ARAB (cat 1-3)).

**12 ECOLOGICAL INFORMATION**

Ecological effects information  
Biodegradation [%] Sapromat respirometry test (OECD 301 F) : No data available.  
EC50 72h Algae (Selenastrum capricornutum) [ppm] (OECD 201) : > 300 Hardly toxic.  
48 Hour EC50 Daphnia magna [ppm] (OECD 202) : 171 Hardly toxic.  
Remarks : Ecover Technogreen products do not contain any bioaccumulating raw materials and no PCM or nitromusk perfume components. The surface active components used in this product fulfill all of the biodegradability requirements of EC regulation 648/2004.

**13 DISPOSAL CONSIDERATIONS**

General : Dispose in a safe manner in accordance with local/national regulations.  
Product : Waste of this product is considered chemical waste. The legislation concerning disposal of waste can differ from one country/state to another. The disposal should therefore be done according to national or local waste legislation. If in doubt, ask the local waste management authority for advice (also see § 6 and § 8 when disposing of).

**Techno Calc****CODE: 32105253****13 DISPOSAL CONSIDERATIONS (continued)**

**Packaging** : The empty packaging should be disposed of chemical waste according to national or local waste legislation. Empty, cleaned packaging is not subject to ADR.

**14 TRANSPORT INFORMATION**

**UN No.** : 1760  
**H.I. nr** : 80  
**ADR/RID** : Group : II  
Class : 8  
**- Proper shipping name** : CORROSIVE LIQUID, N.O.S. (formic acid)  
**Labelling ADR**



**Personal precautions** : The driver shall not attempt to deal with any fire of the load.  
**In case of spillage and/or leakage** : Clean up even minor leaks or spills if possible without unnecessary risk.  
**Emergency action in case of accident** : Mark roads and warns other road users.  
**Additional information** : None.  
**- Limited Quantity** : LQ 22

**15 REGULATORY INFORMATION****Symbol(s)**

**R Phrase(s)** : R34 : Causes burns.  
**S Phrase(s)** : S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S27 : Take off immediately all contaminated clothing.  
S36/37/39 : Wear suitable protective clothing, gloves and eye/face protection.  
S45 : In case of accident or if you feel unwell, seek medical advice immediately ( show the label when possible).  
**EEC Composition of detergents** : < 5% : - Amphoteric surfactants

**16 OTHER INFORMATION**

**Training advice** : For correct use of this product: see Technical Data Sheet.  
**List of relevant R phrases (heading 2)** : R35 : Causes severe burns.  
**Sources of key data used** : MSDS and additional literature data of the respective suppliers.  
Chemical cards, 21th edition, 2006, ed. MIA, VMCI, Samson  
Comprehensive guide to chemical resistant best gloves for various amounts of exposure, 1999, ver.3.5 www  
**Revision** : First version of this MSDS in this new format.  
**Print date** : 9/11/2006  
**Further information** : None.

The contents and format of this SDS are in accordance with EEC Commission Directive 2001/58EC.

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**MATERIAL SAFETY DATA SHEET  
According to 2001/58EC**

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product. If the product is used as a component in another product, this MSDS information may not be applicable.

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