1. Identification of the substance/preparation and of the company/undertaking

- **Product details/Trade name:** Activator ready for use for Water Transfer Printing

- **Application of the substance / the preparation:** Industrial solvent for Water transfer printing

- **Manufacturer/Supplier:**
  WT - Direct GmbH
  3-D Wassertransferdrucksysteme & Zubehör
  Boschstraße 16
  D-73655 Plüderhausen

- **Further information obtainable from:**
  Information in case of emergency:
  Telephone: +49-7181-9854840
  Telefax number: +49-7181-98559822
  E-Mail: info@wt-direct.de

2. Hazards identification

GHS Classification

- H332: Harmful if inhaled. Acute toxicity, Category 4, Inhalation
- H312: Harmful in contact with skin. Acute toxicity, Category 4, Dermal
- H302: Harmful if swallowed. Acute toxicity, Category 4, Oral
- H315: Causes skin irritation. Skin irritation, Category 2
- H319: Causes serious eye irritation. Eye irritation, Category 2

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

- **Signal word:** Warning
- **Hazard statements:**
  H302 Harmful if swallowed.
  H312 Harmful in contact with skin.
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H332 Harmful if inhaled.

- **Precautionary statements:**
  **Response**
  P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
  P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.
  Remove contact lenses, if present and easy to do. Continue rinsing.
Safety Data Sheet
According to 1907/2006/EC, Article 31

Activator ready for use for Water Transfer Printing

EC Classification

Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)   Xn   Harmful

R-phrase(s)  20/21/22-36/38  Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin.

S-phrase(s)  36/37-46  Wear suitable protective clothing and gloves. If swallowed, seek medical advice immediately and show this container or label.

EC-No.  203-905-0 EC  Label

For the full text of the R-phrases mentioned in this Section, see Section 16.

3. Composition/information of ingredients

Hazardous ingredients:

<table>
<thead>
<tr>
<th>Chemical characterization:*</th>
<th>CAS-Nr.</th>
<th>%</th>
<th>EG-number</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Butoxyethanol</td>
<td>111-76-2</td>
<td>25 - 70</td>
<td>203-905-0</td>
<td>Xi, R36 R 66 - 67</td>
</tr>
</tbody>
</table>

4. First Aid Measures

After inhalation: fresh air. If breathing stops: mouth-to-mouth respiration or mechanical ventilation. Oxygen mask if necessary! Immediately call in physician.

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at the most). Get medical attention.

5. Fire-fighting measures

Suitable extinguishing media
Carbon dioxide (CO2), Foam, Dry powder

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Activator ready for use for Water Transfer Printing

Specific hazards during fire fighting
Combustible material, Vapours are heavier than air and may spread along floors. Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire. Special protective equipment for fire-fighters
Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

Further information
Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures

Personal precautions
Avoid substance contact. Do not breathe vapours, aerosols. Ensure supply of fresh air in enclosed rooms. Ensure adequate ventilation.

Environmental precautions
Do not empty into drains.

Methods for cleaning up
Take up with liquid-absorbent material (e.g. Chemizorb®).
Forward for disposal. Clean up affected area.

7. Handling and storage

Handling
Advice on safe handling
No further requirements.

Storage
Further information on storage conditions
Tightly closed. Dry. Protected from light.

Requirements for storage areas and containers
Do not use light-weight-metal containers.
8. Exposure controls/personal protection

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>Basis</th>
<th>Value</th>
<th>Control parameters</th>
<th>Ceiling Limit Value, Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol (111-76-2)</td>
<td>ECTLV</td>
<td>STEL 50 ppm</td>
<td>246 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SKIN_DES</td>
<td>TWA 20 ppm</td>
<td>98 mg/m³</td>
<td></td>
</tr>
<tr>
<td>EH40 WEL</td>
<td>SKIN_DES</td>
<td>STEL 50 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA 25 ppm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Can be absorbed through the skin.

Personal protective equipment

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

Hand protection

full contact:

- Glove material: butyl-rubber
- Glove thickness: 0,7 mm
- Break through time: > 480 min

splash contact:

- Glove material: Nitrile rubber
- Glove thickness: 0,40 mm
- Break through time: > 120 min

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374, for example. KCL 898 Butoject® (full contact), KCL 730 Camatril® -Velours (splash contact).

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Safety Data Sheet
According to 1907/2006/EC, Article 31

WT-DIRECT GmbH

Activator ready for use for Water Transfer Printing

Eye protection
required

Protective measures
Protective suit

Hygiene measures
Immediately change contaminated clothing. Apply skin-protective barrier cream. Wash hands and face after working with substance.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>ether-like</td>
</tr>
<tr>
<td>pH</td>
<td>7</td>
</tr>
<tr>
<td>pH at 20 °C</td>
<td>7</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>5,31 mPa.s</td>
</tr>
<tr>
<td>Viscosity at 20 °C</td>
<td>(as aqueous solution)</td>
</tr>
<tr>
<td>Melting point</td>
<td>&lt; -70 °C</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>168 - 170 °C</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>230 °C</td>
</tr>
<tr>
<td>Methode: (DIN 51794)</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>63 - 64 °C</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability</td>
<td>no data available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>1,1 %(V)</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>10,6 % (V)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>0,8 hPa</td>
</tr>
<tr>
<td>Vapour pressure at 20 °C</td>
<td>7,6 hPa</td>
</tr>
<tr>
<td>Vapour pressure at 50 °C</td>
<td></td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>4,07</td>
</tr>
<tr>
<td>Density</td>
<td>0,90 g/cm³</td>
</tr>
<tr>
<td>Density at 20 °C</td>
<td></td>
</tr>
<tr>
<td>Solubility/qualitative</td>
<td>no data available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>soluble</td>
</tr>
<tr>
<td>Water solubility at 20 °C</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 0,81</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water (experimental), (Lit.)</td>
<td>No bioaccumulation is to be expected (log Pow &lt;1).</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
</tbody>
</table>
10. Stability and reactivity

Conditions to be avoided: no information available
Substances to be avoided: oxidizing agent, strong alkalis.
Hazardous decomposition products: no information available
Further information: light-sensitive.

11. Toxicological information

Acute toxicity

<table>
<thead>
<tr>
<th>LC₅₀ (inhalaion, rat):</th>
<th>72.5 mg/l /4 h.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD₅₀ (dermal, rabbit):</td>
<td>5640 mg/kg.</td>
</tr>
<tr>
<td>LD₅₀ (oral, rat):</td>
<td>6500 mg/kg.</td>
</tr>
</tbody>
</table>

Specific symptoms in animal studies:
Eye irritation test (rabbit): Slight irritations.
Skin irritation test (rabbit): Slight irritations.

Subacute to chronic toxicity
Bacterial mutagenicity: Ames test: negative.

Further toxicological information
After skin contact: Slight irritations.
After eye contact: Slight irritations.

Further data
The product should be handled with the care usual when dealing with chemicals.

12. Ecological information

Biodegradation: 100 % /28 d.
Readily biodegradable.

Behaviour in environmental compartments:
Distribution: log p(o/w): 1.77 (calculated).
No appreciable bioaccumulation potential is to be expected (log P(o/w) 1-3).

Ecotoxic effects:
Fish toxicity: Br.rerio LC50: 50-70 mg/l /96 h.
Daphnia toxicity: Daphnia magna EC50: 665 mg/l /48 h.
Bacterial toxicity: bacteria EC50: >5000 mg/l /16 h.

Further ecologic data:
BOD₅: 383 mg/g.
COD: 1.87 g/g.
No ecological problems are to be expected when the product is handled and used with due care and attention.
3. Disposal considerations

Product
Chemicals must be disposed of in compliance with the respective national regulations.

Packaging
The product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

4. Transport Information

Not classified as dangerous in the meaning of transport regulations

5. Regulatory information

GHS-Labelling:

Hazard pictograms:

signal word:
Warning

Hazard statements
H302 + H312 + H332: Harmful if swallowed, in contact with skin or if inhaled.
H319: Causes serious eye irritation.
H315: Causes skin irritation.

Precautionary statements
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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Labelling according to EC Directives

Symbol(s): Xn

R-phrase(s): 20/21/22-36/38
Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin.

S-phrase(s): 36/37-46
Wear suitable protective clothing and gloves. If swallowed, seek medical advice immediately and show this container or label.

EC-No. 203-905-0 EC Label

Printing date: April 2013
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Activator ready for use for Water Transfer Printing

Symbol(s): Xn Harmful
R-phrase(s): 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
S-phrase(s): 36/37 Wear suitable protective clothing and gloves.

National legislation
Storage class VCI: 10 Combustible liquids not in Storage Class 3
Major Accident Hazard: 96/82/EC Update: 2003
Legislation Directive 96/82/EC does not apply

Other regulations: Take note of Dir 94/33/EC on the protection of young people at work. Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers.

16. Other information

Full text of R-phrases referred to under sections 2 and 3
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R36/38 Irritating to eyes and skin.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.