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

1.1 Identification of the substance or mixture:
Product name : G5200b
Additional identification : G5200B Activator, G5200B Improved, Quicksilver Activator Next Generation, Silverplate Activator K
MSDS Number : 000001012421

1.2 Use of the substance/mixture:
Use of the Substance/Preparation : Activator solution
Business group : GS

1.3 Company/undertaking identification
Agfa Corporation
611 River Drive
Center 3
Elmwood Park, NJ 07407
U.S.A.
Transport Emergency Call CHEMTREC : +1 800 4249300
Non-transportation Health Emergency Phone : +1 303 6235716
International : +1 703 5273887 Agfa Information Phone : +1 201 4402500

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

<table>
<thead>
<tr>
<th>GHS (Globally Harmonized System of Classification and Labelling of Chemicals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard classes</td>
</tr>
<tr>
<td>Hazard categories</td>
</tr>
<tr>
<td>Hazard statements</td>
</tr>
<tr>
<td>Hazard classes</td>
</tr>
<tr>
<td>Hazard categories</td>
</tr>
<tr>
<td>Hazard statements</td>
</tr>
<tr>
<td>Hazard classes</td>
</tr>
<tr>
<td>Hazard categories</td>
</tr>
<tr>
<td>Hazard statements</td>
</tr>
</tbody>
</table>

2.2 Label elements:
Hazardous components which must be listed on the label:
Symbol(s)
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Signal word : DANGER
Hazard statements : H314 Causes severe skin burns and eye damage.

Precautionary statements:
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements: response
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixture related information:
Aqueous activator solution, mainly consisting of:

3.2 Hazard ingredients:
The hazard and labelling information in this section is that of the individual ingredients. The corresponding information relative to this product as supplied is given in section 2.1.

Hazardous components
- Potassium hydroxide
  - CAS-No. : 1310-58-3
  - Hazard classes : Acute toxicity Oral, Skin corrosion, Serious eye damage, Corrosive to metals.
  - Hazard categories : Category 4, Category 1A, Category 1, Category 1
  - Hazard statements : H302, H314, H318, H290
  - Concentration [%] : 2.0 - 5.0
- Diethylenetriamine
  - CAS-No. : 111-40-0
  - Hazard classes : Acute toxicity Oral, Acute toxicity Dermal, Acute toxicity Inhalation, Skin corrosion, Skin sensitizer, Specific target organ toxicity - single
  - Concentration [%] : 1.0 - 5.0

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**Hazard categories**

- Category 4, Category 3, Category 2, Category 1B, Category 1, Category 3

**Hazard statements**

- H302, H311, H330, H314, H317, H335

**Components with a community workplace exposure limit**

- Potassium hydroxide
- Diethylenetriamine

**3.3 Remark:**

Full text of each relevant H-phrase is listed in section 16.

### SECTION 4. FIRST AID MEASURES

**4.1 Description of first aid measures:**

- **Eye contact**: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- **Skin contact**: Wash immediately with plenty of water and soap. If symptoms persist, seek medical advice.
- **Ingestion**: Rinse mouth with plenty of water. Seek medical advice.
- **Inhalation**: Take person to fresh air. If necessary, seek medical advice.

**4.2 Most important symptoms and effects:**

- **Symptoms**: In normal conditions of use, no adverse effects are expected.

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

- **General advice**: Call a physician immediately.

### SECTION 5. FIRE-FIGHTING MEASURES

**5.1 Extinguishing media**

- **Suitable extinguishing media**: All extinguishing media are suitable.
- **Extinguishing media which must not be used for safety reasons**: Do not use a solid water stream as it may scatter and spread fire.

**5.2 Special hazards arising from the substance or mixture:**

- **Specific hazards during fire fighting**: Do not use a solid water stream as it may scatter and spread fire.
- **Further information**: Product is not combustible. Collect contaminated fire extinguishing
water separately. This must not be discharged into drains.

5.3 Advice for fire-fighters:
Special protective equipment for fire-fighters: Regular fire intervention clothes.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:
Personal precautions: See section: Exposure controls / personal protection. Cleanup personnel must use appropriate personal protective equipment.
Additional advice: Wash away residues with plenty of water. Observe normal precautions when handling chemicals.

6.2 Environmental precautions:
Environmental precautions: For waste disposal see section 13. The product should not be allowed to enter drains, water courses or the soil.

6.3 Methods and material for containment and cleaning up:
Methods for cleaning up: Dike the spill if necessary. Soak up with absorbent material. Collect large spills into a properly labelled and sealable container. Prevent release into the drain, soil or surface water.

6.4 Reference to other sections:
For waste disposal see section 13.
For personal protection see section 8.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:
Advice on safe handling: Prevent product from diffusing.

7.2 Conditions for safe storage:
Requirements for storage areas and containers: Keep container tightly closed. Protect from direct sunlight.
Advice on common storage: Store away from strong acids.

7.3 Specific end use:
This substance is used only by trained professionals under restricted conditions.
### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### 8.1 Control parameters:

8.1.1 Components with occupational exposure limits resp. biological occupational exposure limits requiring monitoring:

8.1.1.1 Occupational exposure limits:

**Air limit values (US)**

<table>
<thead>
<tr>
<th>Basis</th>
<th>Revision Date</th>
<th>Value</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>2002</td>
<td>2 mg/m³</td>
<td>Ceiling</td>
</tr>
<tr>
<td>NIOSH</td>
<td>06 1997</td>
<td>2 mg/m³</td>
<td>REL</td>
</tr>
<tr>
<td>OSHA Z1A</td>
<td>1989</td>
<td>2 mg/m³</td>
<td>Ceiling</td>
</tr>
<tr>
<td>TN OEL</td>
<td>06 2008</td>
<td>2 mg/m³</td>
<td>Ceiling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basis</th>
<th>Revision Date</th>
<th>Value</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>2011</td>
<td>1 ppm</td>
<td>TWA</td>
</tr>
<tr>
<td>NIOSH</td>
<td>2010</td>
<td>4 mg/m³</td>
<td>REL</td>
</tr>
<tr>
<td>OSHA Z1A</td>
<td>1989</td>
<td>4 mg/m³</td>
<td>TWA</td>
</tr>
<tr>
<td>TN OEL</td>
<td>06 2008</td>
<td>4 mg/m³</td>
<td>TWA</td>
</tr>
</tbody>
</table>

**Air limit values (CA)**

<table>
<thead>
<tr>
<th>Basis</th>
<th>Revision Date</th>
<th>Value</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD AB OEL</td>
<td>01 1997</td>
<td>2 mg/m³</td>
<td>CEILING</td>
</tr>
<tr>
<td>CAD BC OEL</td>
<td>01 1997</td>
<td>2 mg/m³</td>
<td>CEILING</td>
</tr>
<tr>
<td>OEL (QUE)</td>
<td>09 2000</td>
<td>2 mg/m³</td>
<td>CEV</td>
</tr>
<tr>
<td>CAD SK OEL</td>
<td>12 2008</td>
<td>2 mg/m³</td>
<td>CEILING</td>
</tr>
<tr>
<td>CAD MB OEL</td>
<td>05 2009</td>
<td>2 mg/m³</td>
<td>Ceiling</td>
</tr>
<tr>
<td></td>
<td>03 2011</td>
<td>2 mg/m³</td>
<td>CEILING</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basis</th>
<th>Revision Date</th>
<th>Value</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>OEL (QUE)</td>
<td>12 2008</td>
<td>4.2 mg/m³</td>
<td>TWA</td>
</tr>
<tr>
<td>CAD AB OEL</td>
<td>07 2009</td>
<td>4.2 mg/m³</td>
<td>TWA</td>
</tr>
<tr>
<td>CAD BC</td>
<td>07 2007</td>
<td>1 ppm</td>
<td>TWA</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>OEL</th>
<th>11 2010</th>
<th>1 ppm</th>
<th>TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAD ON OEL</td>
<td>05 2009</td>
<td>1 ppm</td>
<td>8 HR ACL</td>
</tr>
<tr>
<td>CAD SK OEL</td>
<td>05 2009</td>
<td>2 ppm</td>
<td>15 MIN ACL</td>
</tr>
<tr>
<td>CAD MB OEL</td>
<td>03 2011</td>
<td>1 ppm</td>
<td>TWA</td>
</tr>
</tbody>
</table>

Biological limit values (US)

We are not aware of any national exposure limit.

Biological limit values (CA)

We are not aware of any national exposure limit.

8.1.1.2 Additional exposure limits under the conditions of use:

No other exposure limits applicable.

8.2 Exposure controls:

Occupational exposure controls:

➢ Instruction measures to prevent exposure:

Employees should wash their hands and face before eating, drinking, or using tobacco products. Keep away from foodstuffs, drinks and tobacco.

➢ Technical measures to prevent exposure:

Ensure adequate ventilation.

➢ Personal measures to prevent exposure:

Respiratory protection: Under normal conditions of use, respirator protection is not required. If respirators are used, institute a program in accordance with OSHA standard 29CFR1910.134 or Canada CSA Standard Z94.4-02.

Hand protection: Use chemical resistant gloves. In case of prolonged immersion or frequently repeated contact use gloves made of the materials: butylrubber (thickness >= 0.70 mm, breakthrough time > 480 min).(EN 374). The use of protective gloves should conform to the specifications of EC directive 89/686/EC and the resultant standard EN374. Additional advice: The data are based on own tests, literature data and information of glove manufacturers or derived from similar substances. Because several factors may influence these properties (eg temperature), one should take into account the fact that the life of a chemical gloves in practice may be considerably shorter than indicated by the permeation test. The high diversity of types of use are prescribed by the manufacturer.

Eye protection: Safety goggles. EN 166.
Body Protection : Safety clothes.
Personal protective equipment : Observe normal precautions when handling chemicals. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Basic physical and chemical properties:

9.1.1 Appearance:
State of matter : Liquid
Form : Liquid
Color : Yellow
Odor : Alcoholic odour
Odor threshold : No data available

9.1.2 Important health, safety and environmental information:
pH (25 °C) : > 13.0
Melting point/range : < 0 °C
Boiling point/range : > 100 °C
Flash point : 93 °C
Autoignition temperature : Not applicable
Vapour pressure (20 °C) : 23.00 hPa
Relative vapour density : No data available
Relative density (20 °C) : 1.075
Solubility/qualitative : Miscible with water at all ratios.
Partition coefficient (n-octanol/water) : Not applicable
Lower explosion limit : Not applicable
Upper explosion limit : Not applicable
Flammability (solid, gas) : Not flammable.

9.2 Other information:
Solubility : completely soluble
VOC content : 0.0 g/l
VOC content excluding water : not available
Ignition temperature : no data available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity:
Reactivity : Reactivity is not to be expected under normal conditions of temperature and pressure.
10.2 Chemical stability:
Stability : The product is stable under normal conditions of storage and use.

10.3 Possibility of hazardous reactions:
Hazardous reactions : Reacts with acids.

10.4 Conditions to avoid:
Conditions to avoid : Avoid contact with strong acids. Remove all chemicals and rinse the processing tanks thoroughly with water before using any cleansing products.

10.5 Materials to avoid:
Materials to avoid : Store away from strong acids.

10.6 Hazardous decomposition products:
Hazardous decomposition products : None

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Toxicity data specific for individual ingredients in their pure state:

Toxicokinetics, metabolism and distribution:

Acute effects (toxicity tests):

➢ Acute Toxicity

- Potassium hydroxide

<table>
<thead>
<tr>
<th>Effect dose</th>
<th>Species</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>LD50</td>
<td>rat</td>
<td>273 mg/kg</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Diethylenetriamine

<table>
<thead>
<tr>
<th>Effect dose</th>
<th>Species</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>LD50</td>
<td>rat</td>
<td>1,620 mg/kg</td>
</tr>
</tbody>
</table>
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Acute dermal toxicity  LD50  rabbit  672 mg/kg  Literature.
Acute inhalation toxicity  LC50  rat  0.3 mg/l/ 4 h  OECD Test Guideline 403

➢ Specific target organ toxicity (STOT):

- Potassium hydroxide

Specific effects  Affected organs

Exposure to the substance can cause chemical burns. The substance works corrosive on the eyes, the skin and the respiratory tract. If swallowed, corrosive. Inhalation may cause lung inflammation and/or pulmonary edema, only after symptoms of corrosive effects on the mucous membranes of eyes and/or upper respiratory tract. In severe cases chance of fatality.

- Diethylenetriamine

Specific effects  Affected organs

May cause irritation of respiratory tract. Pulmonary edema after damage respiratory tract.

➢ Irritant and corrosive effects:

- Potassium hydroxide

<table>
<thead>
<tr>
<th>Exposure time</th>
<th>Species</th>
<th>Evaluation</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary irritation to the skin</td>
<td>rabbit</td>
<td>Corrosive</td>
<td>Literature. OECD Test Guideline 405</td>
</tr>
<tr>
<td>Irritation to eyes</td>
<td>rabbit</td>
<td>Causes serious eye irritation.</td>
<td></td>
</tr>
</tbody>
</table>

- Diethylenetriamine

<table>
<thead>
<tr>
<th>Exposure time</th>
<th>Species</th>
<th>Evaluation</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary irritation to the skin</td>
<td>rabbit</td>
<td>Causes burns.</td>
<td>Literature.</td>
</tr>
<tr>
<td>Irritation to eyes</td>
<td>rabbit</td>
<td>Causes burns.</td>
<td>Literature.</td>
</tr>
</tbody>
</table>

➢ Irritation to the respiratory tract:

- Potassium hydroxide

No data available

- Diethylenetriamine

May cause irritation of respiratory tract.

➢ Sensitisation:
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<table>
<thead>
<tr>
<th>Species</th>
<th>Evaluation</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>guinea pig</td>
<td>Literature.</td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
</tbody>
</table>

- Potassium hydroxide

- Diethylenetriamine

- Aspiration hazard:
  No data available

Sub-acute, sub-chronic and chronic toxicity

- Repeated dose toxicity:
  - Potassium hydroxide
    No data available
  - Diethylenetriamine
    Effect dose | Value | Exposure time | Species |
    --- | --- | --- | --- |
    | | | | |
    Method: Literature.
    Repeated or prolonged exposure: The substance can affect the liver, causing damage to the body.

- Specific target organ toxicity (STOT):
  - Potassium hydroxide
    Repeated exposure | Specific effects | Affected organs |
    --- | --- | --- |
    | | | |
    Skin contact may be damaged by eczema. The dust may affect the upper and lower airways, causing inflammation and impaired lung function. Erosion of the teeth may occur.

  - Diethylenetriamine
    May cause damage to organs through prolonged or repeated exposure. Chronic exposure causes drying effect on the skin and eczema. Repeated or prolonged exposure: The substance can affect the liver, causing damage to the body. Can cause eczema by hypersensitivity.

- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):
  - Carcinogenicity
Potassium hydroxide
No carcinogenic effects observed at the doses tested.

- Diethylenetriamine

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Species</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Method: Literature. Under special conditions there is a possibility to generate nitrosamines. Animal studies showed that nitrosamines have carcinogenetic properties.</td>
<td></td>
</tr>
</tbody>
</table>

- **Mutagenicity**

- Potassium hydroxide
  No data available

- Diethylenetriamine
  Based on available data, the classification criteria are not met.

- **Genetic toxicity in vitro**

- Potassium hydroxide

<table>
<thead>
<tr>
<th>Type</th>
<th>Test system</th>
<th>Concentration</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ames test</td>
<td><em>Escherichia coli</em> WP2 uvr A; <em>Salmonella typhimurium</em> TA98, TA100, TA535, TA1537</td>
<td>negative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Diethylenetriamine

<table>
<thead>
<tr>
<th>Type</th>
<th>Test system</th>
<th>Concentration</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ames test</td>
<td>Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Genetic toxicity in vivo**

- Potassium hydroxide
  No data available

- Diethylenetriamine

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Species</th>
<th>Exposure time</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>mouse (male/female)</td>
<td>Method: Mutagenicity (micronucleus test)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Teratogenicity**

No data available
- **Toxicity to reproduction**
  
  No data available

➢ **Summarised evaluation of the CMR properties:**

  - **Potassium hydroxide**
    
    Carcinogenicity : Animal testing did not show any carcinogenic effects.
    
    Mutagenicity : No data available
    
    Teratogenicity : No data available
    
    Toxicity to reproduction : No data available

  - **Diethylenetriamine**
    
    Carcinogenicity : Based on available data, the classification criteria are not met.
    
    Mutagenicity : Based on available data, the classification criteria are not met.
    
    Teratogenicity : No data available
    
    Toxicity to reproduction : No data available

**Experiences made in practice:**

Hazard labelling of this preparation or substance : see section 15.

---

### SECTION 12. ECOLOGICAL INFORMATION

#### 12.1 Ecotoxicity:

- **Potassium hydroxide**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Exposure</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50</td>
<td>Poecilia reticulata (guppy)</td>
<td>165 mg/l</td>
</tr>
<tr>
<td></td>
<td>24 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method: Literature. Based on available data, the classification criteria are not met.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to daphnia</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to algae</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to bacteria</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Diethylenetriamine**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Exposure</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50</td>
<td>Poecilia reticulata (guppy)</td>
<td>430 mg/l</td>
</tr>
<tr>
<td></td>
<td>96 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method: Literature. Based on available data, the classification criteria are not met.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to daphnia</td>
<td>NOEC</td>
<td>Pisces (fish)</td>
<td>&gt; 10 mg/l</td>
</tr>
<tr>
<td></td>
<td>672 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC50</td>
<td>Daphnia magna</td>
<td>64.6 mg/l</td>
</tr>
<tr>
<td></td>
<td>48 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Method: Tested according to Directive 92/69/EEC.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Toxicity to daphnia EC50 48 h  Daphnia magna 16 mg/l
Method: DIN 38412
Toxicity to daphnia NOEC 588 h  Daphnia magna 5.6 mg/l
Toxicity to algae EC50 72 h  Selenastrum capricornutum 1,164 mg/l
Method: OECD Test Guideline 201
Based on available data, the classification criteria are not met.
Toxicity to bacteria EC0 3 h  Bacteria 6 mg/l
Method: Literature.

12.2 Persistence and degradability:
Physico-chemical removability

- Potassium hydroxide
  Neutralization is normally necessary before waste water is discharged into water treatment plants.
- Diethylenetriamine
  No data available

Chemical Oxygen Demand (COD)

<table>
<thead>
<tr>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>75,000 mg/l</td>
<td></td>
</tr>
</tbody>
</table>

Adsorbed organic bound halogens (AOX)

- Potassium hydroxide
  Product does not contain any organic halogens.
- Diethylenetriamine
  No data available

<table>
<thead>
<tr>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Literature.</td>
</tr>
<tr>
<td></td>
<td>Product does not contain any organic halogens.</td>
</tr>
</tbody>
</table>

Biodegradation

- Potassium hydroxide
  The methods for determining biodegradability are not applicable to inorganic substances.
- Diethylenetriamine

<table>
<thead>
<tr>
<th>Value</th>
<th>Exposure time</th>
<th>Method</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>87 %</td>
<td></td>
<td>OECD 301D</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assessment of biological degradability</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>According to the results of tests of biodegradability this product is considered as being readily biodegradable.</td>
<td></td>
</tr>
</tbody>
</table>

Biochemical Oxygen Demand (BOD)
SAFETY DATA SHEET  

**G5200b**

**Version 2**

Revision Date 07-23-2014

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### Concentration Incubation time Value Method

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5,400 mg/l</td>
<td></td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential:

**Partition coefficient (n-octanol/water)**

Not applicable

**Bioconcentration factor (BCF)**

- Potassium hydroxide
  - Does not bioaccumulate.
- Diethylenetriamine

<table>
<thead>
<tr>
<th>Value</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= 6.3</td>
<td>Cyprinus carpio (carp)</td>
<td>OESO 305C</td>
</tr>
</tbody>
</table>

Accumulation in aquatic organisms is unlikely.

12.4 Mobility in soil:

- Potassium hydroxide
  - No information available.
- Diethylenetriamine
  - Completely miscible

**Henry's constant**

<table>
<thead>
<tr>
<th>Value</th>
<th>Temperature</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No information available.</td>
</tr>
</tbody>
</table>

**Transport between environmental compartments**

- Potassium hydroxide
  - Transport between environmental compartments can be expected.
- Diethylenetriamine

<table>
<thead>
<tr>
<th>Type</th>
<th>Medium</th>
<th>Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>log Koc: 3.4 to 4.6</td>
<td>Literature.</td>
</tr>
</tbody>
</table>

Transport between environmental compartments is not expected.

12.5 Results of PBT and vPvB assessment:

- Potassium hydroxide
  - This product does not meet the criteria concerning PBT or vPvB substances as described in Annex XIII of the REACH regulation (1907/2006 EC)
Diethylenetriamine
This product does not meet the criteria concerning PBT or vPvB substances as described in Annex XIII of the REACH regulation (1907/2006 EC)

12.6 Other adverse effects:

- Potassium hydroxide
  Harmful to aquatic organisms.
- Diethylenetriamine
  This substance is not in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer. Neutralization will reduce ecotoxic effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal methods
Waste disposal should be in accordance with existing federal, state and local environmental control laws. Discharge to sewer may require approval of permitting authority and may require pretreatment.

Empty containers.
Recondition or dispose of empty container in accordance with governmental regulations.

US. RCRA Hazardous Waste Classification (40 CFR 261)
When discarded in its purchased form, this product meets the criteria of corrosivity, and should be managed as a hazardous waste (EPA Hazardous Waste Number D002).

SECTION 14. TRANSPORT INFORMATION

CFR_ROAD
UN-No : 1814
Proper shipping name : Potassium hydroxide, solution
Class : 8
Packing group : II
Labelling No. : 8

CFR_RAIL
UN-No : 1814
Proper shipping name : Potassium hydroxide, solution
Class : 8
Packing group : II
Labelling No. : 8

CFR_INWTR
UN-No : 1814
Proper shipping name : Potassium hydroxide, solution
Class : 8
Packing group : II
### TDG ROAD
- **UN-No**: 1814
- **Proper shipping name**: POTASSIUM HYDROXIDE SOLUTION
- **Class**: 8
- **Packing group**: II
- **Labelling No.**: 8

### TDG RAIL
- **UN-No**: 1814
- **Proper shipping name**: POTASSIUM HYDROXIDE SOLUTION
- **Class**: 8
- **Packing group**: II
- **Labelling No.**: 8

### TDG INWTR
- **UN-No**: 1814
- **Proper shipping name**: POTASSIUM HYDROXIDE SOLUTION
- **Class**: 8
- **Packing group**: II
- **Labelling No.**: 8

### IMO / IMDG
- **UN-No**: 1814
- **Proper shipping name**: POTASSIUM HYDROXIDE SOLUTION
- **Class**: 8
- **Packing group**: II
- **Labelling No.**: 8
- **EmS**: F-A, S-B
- **Marine pollutant**: No

#### ICAO / IATA cargo aircraft only
- **UN-No**: 1814
- **Proper shipping name**: Potassium hydroxide solution
- **Class**: 8
- **Packing group**: II
- **Labelling No.**: 8
- **Packing instruction**: 855

#### ICAO / IATA passenger and cargo aircraft
- **UN-No**: 1814
- **Proper shipping name**: Potassium hydroxide solution
- **Class**: 8
- **Packing group**: II
- **Labelling No.**: 8
- **Packing instruction**: 851
SECTION 15. REGULATORY INFORMATION

US. Toxic Substances Control Act (TSCA)
All of the components of this product are listed on the TSCA Inventory.

US. OSHA Classification
This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

US. SARA 311/312 Hazard Categories
Acute Health Hazard.

US. EPA CERCLA Hazardous Substances (40 CFR 302)
- Potassium hydroxide : Reportable quantity: 1,000 lbs

US. California Prop. 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

State Right-to-Know Information
The following chemicals are specifically listed by individual states. Other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1310-58-3</td>
<td>2.0 - 5.0</td>
</tr>
</tbody>
</table>

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1310-58-3</td>
<td>2.0 - 5.0</td>
</tr>
</tbody>
</table>

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1310-58-3</td>
<td>2.0 - 5.0</td>
</tr>
</tbody>
</table>

US. Rhode Island Hazardous Substances Right-to-Know Act (R.I. Gen. Laws Section 28-21-1 et. seq.)

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1310-58-3</td>
<td>2.0 - 5.0</td>
</tr>
</tbody>
</table>

US. Massachusetts, New Jersey, Pennsylvania or Rhode Island Right to Know Substance Lists : See Section 2.

Canadian WHMIS Classification

G5200b

SUBID:000001012421

Version 2

Revision Date 07-23-2014

Print Date 07-24-2014

E : Corrosive Material
D1B : Toxic Material Causing Immediate and Serious Toxic Effects

Canadian Environmental Protection Act (CEPA)
This product contains the following components listed on the Canadian NDSL list. All other components are on the Canadian DSL list.
• 1,4-dimethyl-3-thio-5-(3-butenyl)triazoliumhydroxide

SECTION 16. OTHER INFORMATION

Text of H-phrases referred to under headings 2 and 3:
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.

This MSDS is replacing Agfa MSDS number 522G

This information is furnished without warranty, expressed or implied, and is believed to be accurate to the best knowledge of Agfa Corporation. The data on this SDS relates only to the specific material designated herein. Agfa Corporation assumes no legal responsibility for use or reliance upon these data. This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.