# SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II - Europe

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** **Biotinylation Reagent in Dimethylformamide; part of 'ECL™ Protein Biotinylation System (for 2000 cm membrane)'**

**Catalogue Number** RPN2203

**Component Number** 1061918

**Product description** Not available.

**Product type** Liquid.

**Other means of identification** Not available.

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

Research and Development Analytical reagent. Analytical chemistry.

### 1.3 Details of the supplier of the safety data sheet

**Supplier**

GE Healthcare UK Ltd
Amersham Place
Little Chalfont
Buckinghamshire HP7 9NA
England
+44 0870 606 1921

**Hours of operation**
08.30 - 17.00

**Person who prepared the MSDS :** msdslifesciences@ge.com

### 1.4 Emergency telephone number

**Europe**

GE Healthcare Bio-Sciences GmbH
Munzinger Strasse 5
D-79111 Freiburg
Germany / Deutschland

+49 0761 4543 0

**National advisory body/Poison Centre**

**Europe** http://www.who.int/ipcs/poisons/centre/directory/euro/en/

Mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** Mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Acute Tox. 4, H312
Acute Tox. 3, H331
Eye Irrit. 2, H319
Repr. 1B, H360D

**Ingredients of unknown toxicity**

**Ingredients of unknown ecotoxicity**

**Classification according to Directive 1999/45/EC [DPD]**

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

| | |
|---|---|
| **Classification** | Repr. Cat. 2; R61<br>Xn; R20/21<br>Xi; R36 |
| **Human health hazards** | May cause harm to the unborn child. Also harmful by inhalation and in contact with skin. Irritating to eyes. |

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms**

| | |
|---|---|
| **Signal word** | Danger |
| **Hazard statements** | Toxic if inhaled.<br>Harmful in contact with skin.<br>Causes serious eye irritation.<br>May damage the unborn child. |

**Precautionary statements**

| | |
|---|---|
| **Prevention** | Obtain special instructions before use. Wear protective gloves. Wear eye or face protection. Wear protective clothing. |
| **Response** | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician. |
| **Storage** | Store locked up. |
| **Disposal** | Not applicable. |
| **Hazardous ingredients** | N,N-dimethylformamide |
| **Supplemental label elements** | Not applicable. |

**Special packaging requirements**

| | |
|---|---|
| **Containers to be fitted with child-resistant fastenings** | Not applicable. |
| **Tactile warning of danger** | Not applicable. |

### 2.3 Other hazards

| | |
|---|---|
| **Other hazards which do not result in classification** | Not available. |

## SECTION 3: Composition/information on ingredients

**Substance/mixture** Mixture

| Product/ingredient name | Identifiers | % | Classification | | Type |
|---|---|---|---|---|---|
| | | | 67/548/EEC | Regulation (EC) No. 1272/2008 [CLP] | |
| N,N-dimethylformamide | EC: 200-679-5<br>CAS: 68-12-2<br>Index: 616-001-00-X | >=90 | Repr. Cat. 2; R61<br>Xn; R20/21<br>Xi; R36<br><br>See Section 16 for the full text of the R-phrases declared above. | Flam. Liq. 3, H226<br>Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Acute Tox. 3, H331<br>Eye Irrit. 2, H319<br>Repr. 1B, H360D<br><br>See Section 16 for the full text of the H statements declared above. | [1] [2] |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

**Type**

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Eye contact** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Protection of first-aiders** No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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

Potential acute health effects

**Eye contact** Causes serious eye irritation.

**Inhalation** Toxic if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Skin contact** Harmful in contact with skin.

**Ingestion** Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

**Eye contact** Adverse symptoms may include the following:
pain or irritation
watering
redness

**Inhalation** Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

**Skin contact** Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

**Ingestion** Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

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

**Notes to physician** In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

| | |
|---|---|
| **Specific treatments** | No specific treatment. |

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

| | |
|---|---|
| **Suitable extinguishing media** | Use an extinguishing agent suitable for the surrounding fire. |
| **Unsuitable extinguishing media** | None known. |

### 5.2 Special hazards arising from the substance or mixture

| | |
|---|---|
| **Hazards from the substance or mixture** | In a fire or if heated, a pressure increase will occur and the container may burst. |
| **Hazardous combustion products** | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>nitrogen oxides |

### 5.3 Advice for firefighters

| | |
|---|---|
| **Special precautions for fire-fighters** | Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| **Special protective equipment for fire-fighters** | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. |

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

| | |
|---|---|
| **For non-emergency personnel** | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| **For emergency responders** | If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |

### 6.2 Environmental precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

| | |
|---|---|
| **Small spill** | Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor. |
| **Large spill** | Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal. |

### 6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

| | |
|---|---|
| **Protective measures** | Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |

**Advice on general occupational hygiene** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities** Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

**7.3 Specific end use(s)**

**Recommendations** Research and Development Analytical reagent. Analytical chemistry.

**Industrial sector specific solutions** Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

**Occupational exposure limits**

| Product/ingredient name | Exposure limit values |
|---|---|
| N,N-dimethylformamide | **EU OEL (Europe, 12/2009). Absorbed through skin. Notes: list of indicative occupational exposure limit values**<br>TWA: 15 mg/m³ 8 hour(s).<br>TWA: 5 ppm 8 hour(s).<br>STEL: 30 mg/m³ 15 minute(s).<br>STEL: 10 ppm 15 minute(s). |

**Recommended monitoring procedures** If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

**Derived effect levels**

No DELs available.

**Predicted effect concentrations**

No PECs available.

### 8.2 Exposure controls

**Appropriate engineering controls** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Individual protection measures**

**Hygiene measures** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

**Skin protection**

**Hand protection** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Environmental exposure controls** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | |
| **Physical state** | Liquid. |
| **Colour** | Colourless. |
| **Odour** | Not available. |
| **Odour threshold** | Not available. |
| **pH** | Not available. |
| **Melting point/freezing point** | Not available. |
| **Initial boiling point and boiling range** | Not available. |
| **Flash point** | Not available. |
| **Evaporation rate** | Not available. |
| **Flammability (solid, gas)** | Not available. |
| **Burning time** | Not applicable. |
| **Burning rate** | Not applicable. |
| **Upper/lower flammability or explosive limits** | Not available. |
| **Vapour pressure** | Not available. |
| **Vapour density** | Not available. |
| **Relative density** | Not available. |
| **Solubility(ies)** | Not available. |
| **Partition coefficient: n-octanol/water** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Not available. |
| **Explosive properties** | Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture. |
| **Oxidising properties** | Not available. |

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

| | |
|---|---|
| **10.1 Reactivity** | No specific test data related to reactivity available for this product or its ingredients. |
| **10.2 Chemical stability** | The product is stable. |
| **10.3 Possibility of hazardous reactions** | Under normal conditions of storage and use, hazardous reactions will not occur. |
| **10.4 Conditions to avoid** | No specific data. |
| **10.5 Incompatible materials** | No specific data. |
| **10.6 Hazardous decomposition products** | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

# SECTION 11: Toxicological information

## 11.1 Information on toxicological effects

**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| N,N-dimethylformamide | LC50 Inhalation Gas.<br>LC50 Inhalation Gas.<br>LD50 Dermal<br>LD50 Dermal<br>LD50 Oral | Rat<br>Rat<br>Rabbit<br>Rat<br>Rat | 3421 ppm<br>1948 ppm<br>4720 mg/kg<br>>3.2 g/kg<br>2000 mg/kg | 1 hours<br>4 hours<br>-<br>-<br>- |

**Conclusion/Summary** Not available.

**Acute toxicity estimates**

| Route | ATE value |
|---|---|
| Oral<br>Dermal<br>Inhalation (gases) | 2010.1 mg/kg<br>1105.5 mg/kg<br>1957.8 ppm |

**Irritation/Corrosion**

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| N,N-dimethylformamide | Eyes - Severe irritant<br>Skin - Mild irritant | Rabbit<br>Human | -<br>- | -<br>- | -<br>- |

**Conclusion/Summary** Not available.

**Sensitiser**

**Conclusion/Summary** Not available.

**Mutagenicity**

**Conclusion/Summary** Not available.

**Carcinogenicity**

**Conclusion/Summary** Not available.

**Reproductive toxicity**

**Conclusion/Summary** Not available.

**Teratogenicity**

**Conclusion/Summary** Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure** Not available.

**Potential acute health effects**

**Inhalation** Toxic if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Ingestion** Irritating to mouth, throat and stomach.

**Skin contact** Harmful in contact with skin.

**Eye contact** Causes serious eye irritation.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Inhalation** Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

**Ingestion** Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

| | |
|---|---|
| **Skin contact** | Adverse symptoms may include the following:<br>reduced foetal weight<br>increase in foetal deaths<br>skeletal malformations |
| **Eye contact** | Adverse symptoms may include the following:<br>pain or irritation<br>watering<br>redness |

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

| | |
|---|---|
| **Potential immediate effects** | Not available. |
| **Potential delayed effects** | Not available. |

**Long term exposure**

| | |
|---|---|
| **Potential immediate effects** | Not available. |
| **Potential delayed effects** | Not available. |

**Potential chronic health effects**

Not available.

| | |
|---|---|
| **Conclusion/Summary** | Not available. |
| **General** | No known significant effects or critical hazards. |
| **Carcinogenicity** | No known significant effects or critical hazards. |
| **Mutagenicity** | No known significant effects or critical hazards. |
| **Teratogenicity** | May damage the unborn child. |
| **Developmental effects** | No known significant effects or critical hazards. |
| **Fertility effects** | No known significant effects or critical hazards. |
| **Other information** | Not available. |

## SECTION 12: Ecological information

### 12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| N,N-dimethylformamide | Acute EC50 4500000 to 5200000 ug/L Fresh water | Daphnia - Daphnia magna - <=6 hours | 48 hours |
| | Acute LC50 >100000 ug/L Marine water | Crustaceans - Crangon crangon - Adult | 48 hours |
| | Acute LC50 7100000 to 7500000 ug/L Fresh water | Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) - 0.912 g | 96 hours |
| | Chronic NOEC 6 g/L Fresh water | Daphnia - Daphnia magna | 48 hours |

**Conclusion/Summary** Not available.

### 12.2 Persistence and degradability

**Conclusion/Summary** Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| N,N-dimethylformamide | - | >90%; 28 day(s) | Readily |

### 12.3 Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| N,N-dimethylformamide | - | 0.3 to 0.8 | low |

### 12.4 Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** Not available.

**Mobility** Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** Not applicable.

| | |
|---|---|
| **vPvB** | Not applicable. |
| **12.6 Other adverse effects** | No known significant effects or critical hazards. |

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

**Product**

| | |
|---|---|
| **Methods of disposal** | The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. |
| **Hazardous waste** | The classification of the product may meet the criteria for a hazardous waste. |

**Packaging**

| | |
|---|---|
| **Methods of disposal** | The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. |
| **Special precautions** | This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. |

## SECTION 14: Transport information

| | ADR/RID | ADN/ADNR | IMDG | IATA |
|---|---|---|---|---|
| **14.1 UN number** | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| **14.2 UN proper shipping name** | - | - | - | - |
| **14.3 Transport hazard class(es)** | - | - | - | - |
| **14.4 Packing group** | - | - | - | - |
| **14.5 Environmental hazards** | No. | No. | No. | No. |
| **14.6 Special precautions for user** | Not available. | Not available. | Not available. | Not available. |
| **Additional information** | - | - | - | - |

| | |
|---|---|
| **14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** | Not available. |

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**EU Regulation (EC) No. 1907/2006 (REACH)**

**Annex XIV - List of substances subject to authorisation**

**Substances of very high concern**

None of the components are listed.

| | |
|---|---|
| **Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** | Restricted to professional users. |

**Other EU regulations**

| | |
|---|---|
| **Europe inventory** | Not determined. |
| **Black List Chemicals** | Not listed |
| **Priority List Chemicals** | Not listed |
| **Integrated pollution prevention and control list (IPPC) - Air** | Not listed |
| **Integrated pollution prevention and control list (IPPC) - Water** | Not listed |

| Product/ingredient name | Carcinogenic effects | Mutagenic effects | Developmental effects | Fertility effects |
|---|---|---|---|---|
| N,N-dimethylformamide | - | - | Repr. 1B, H360D | - |

**International regulations**

| | |
|---|---|
| **Chemical Weapons Convention List Schedule I Chemicals** | Not listed |
| **Chemical Weapons Convention List Schedule II Chemicals** | Not listed |
| **Chemical Weapons Convention List Schedule III Chemicals** | Not listed |
| **15.2 Chemical Safety Assessment** | This product contains substances for which Chemical Safety Assessments are still required. |

## SECTION 16: Other information

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms**

ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

| Classification | Justification |
|---|---|
| Acute Tox. 4, H312 | Calculation method |
| Acute Tox. 3, H331 | Calculation method |
| Eye Irrit. 2, H319 | Calculation method |
| Repr. 1B, H360D | Calculation method |

**Full text of abbreviated H statements**

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H312 | Harmful in contact with skin. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H360D | May damage the unborn child. |

**Full text of classifications [CLP/GHS]**

| | |
|---|---|
| Acute Tox. 3, H331 | ACUTE TOXICITY: INHALATION - Category 3 |
| Acute Tox. 4, H302 | ACUTE TOXICITY: ORAL - Category 4 |
| Acute Tox. 4, H312 | ACUTE TOXICITY: SKIN - Category 4 |
| Eye Irrit. 2, H319 | SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 |
| Flam. Liq. 3, H226 | FLAMMABLE LIQUIDS - Category 3 |
| Repr. 1B, H360D | TOXIC TO REPRODUCTION [Unborn child] - Category 1B |

**Full text of abbreviated R phrases**

R61- May cause harm to the unborn child.
R20/21- Also harmful by inhalation and in contact with skin.
R36- Irritating to eyes.

**Full text of classifications [DSD/DPD]**

Repr. Cat. 2 - Toxic to reproduction category 2
Xn - Harmful
Xi - Irritant

**Date of printing** 03 June 2011

| | |
|---|---|
| **Date of issue/ Date of revision** | 03 June 2011 |
| **Date of previous issue** | No previous validation |
| **Version** | 5 |

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.