


## SAFETY DATA SHEET

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

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

#### 1.1 Product identifier

Product name	<b>Biotinylation Reagent in Dimethylformamide; part of 'ECL™ Protein Biotinylation Module'</b>	
Catalogue Number	RPN2202	 9 0 R P N 2 2 0 2
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

Identified uses
 Use in laboratories

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

<b>Supplier</b>	GE Healthcare UK Ltd Amersham Place Little Chalfont Buckinghamshire HP7 9NA England +44 0870 606 1921	<b>Hours of operation</b> 08.30 - 17.00
<b>Person who prepared the MSDS:</b> msdslifesciences@ge.com		
<b>United Kingdom (UK)</b>	GE Healthcare UK Ltd Amersham Place Little Chalfont Buckinghamshire HP7 9NA	<b>1.4 Emergency telephone number</b> 0870 606 1921

#### National advisory body/Poison Centre

<b>United Kingdom (UK)</b>	Health professionals should contact the National Poisons Information Service (NPIS) by telephone, or use TOXBASE <a href="http://www.toxbase.org">www.toxbase.org</a> .
	NPIS <a href="http://www.npis.org/">http://www.npis.org/</a> advise that others seeking specific information on poisons should contact: In England and Wales: NHS Direct - 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24 In N Ireland: Contact your local GP or pharmacist during normal hours; click here ( <a href="http://www.gpoutofhours.hscni.net/">www.gpoutofhours.hscni.net/</a> ) for GP services Out-of-Hours.



## 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]

Flam. Liq. 3, H226  
Acute Tox. 4, H312  
Acute Tox. 3, H331  
Eye Irrit. 2, H319  
Repr. 1B, H360D

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

**Ingredients of unknown toxicity** Not applicable.

**Ingredients of unknown ecotoxicity** Not applicable.

#### 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  
Xn; R20/21  
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** Flammable liquid and vapour.  
Toxic if inhaled.  
Harmful in contact with skin.  
Causes serious eye irritation.  
May damage the unborn child.

#### Precautionary statements

**Prevention** Obtain special instructions before use. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.

**Response** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

**Storage** Keep cool.

**Disposal** Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients** N,N-dimethylformamide

**Supplemental label elements** Not applicable.

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

#### Special packaging requirements

**Containers to be fitted with child-resistant fastenings** Not applicable.

**Tactile warning of danger** Not applicable.

### 2.3 Other hazards



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Other hazards which do not result in classification None known.

## SECTION 3: Composition/information on ingredients

Substance/mixture

Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
<input checked="" type="checkbox"/> N,N-dimethylformamide	REACH #: 01-2119475605-32 EC: 200-679-5 CAS: 68-12-2 Index: 616-001-00-X	99.5	Repr. Cat. 2; R61 Xn; R20/21 Xi; R36  See Section 16 for the full text of the R-phrases declared above.	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 3, H331 Eye Irrit. 2, H319 Repr. 1B, H360D  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, are PBTs or vPvBs or have been assigned a workplace exposure limit 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

[5] Substance of equivalent concern

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



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<b>Eye contact</b>	Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
<b>Skin contact</b>	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
<b>Ingestion</b>	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

<b>Notes to physician</b>	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.
<b>Specific treatments</b>	No specific treatment.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
<b>Unsuitable extinguishing media</b>	Do not use water jet.

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


<b>Hazards from the substance or mixture</b>	Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
<b>Hazardous combustion products</b>	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides

#### 5.3 Advice for firefighters

<b>Special precautions for fire-fighters</b>	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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
<b>Special protective equipment for fire-fighters</b>	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

<b>For non-emergency personnel</b>	 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	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

<b>Small spill</b>	 Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.
<b>Large spill</b>	 Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.



**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. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. 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 a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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.

#### Seveso II Directive - Reporting thresholds (in tonnes)

##### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
H2: Acute toxicity 2 any route of entry or Acute toxicity 3 Inhalation/ Dermal route of entry	50	200
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b	5000	50000

### 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 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	EH40/2005 WELs (United Kingdom (UK), 1/2012). Absorbed through skin. STEL: 30 mg/m <sup>3</sup> 15 minutes. STEL: 10 ppm 15 minutes. TWA: 15 mg/m <sup>3</sup> 8 hours. TWA: 5 ppm 8 hours.

#### Recommended monitoring procedures

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 monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

No DELs available.

#### PNECs



## 8.2 Exposure controls

<b>Appropriate engineering controls</b>	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. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
<b><u>Individual protection measures</u></b>	
<b>Hygiene measures</b>	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.
<b>Eye/face protection</b>	✓ 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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
<b><u>Skin protection</u></b>	
<b>Hand protection</b>	✓ 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
<b>Body protection</b>	✓ 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.
<b>Other skin protection</b>	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.
<b>Respiratory protection</b>	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.
<b>Environmental exposure controls</b>	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

<b>Physical state</b>	Liquid.
<b>Colour</b>	Colourless.
<b>Odour</b>	Characteristic.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Closed cup: 58°C Open cup: 56.85°C
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Burning time</b>	Not applicable.
<b>Burning rate</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	Lower: 2.2% Upper: 15.2%
<b>Vapour pressure</b>	Not available.
<b>Vapour density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	Not available.



<b>Partition coefficient: n-octanol/water</b>	Not available.
<b>Auto-ignition temperature</b>	445°C
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	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.
<b>Oxidising properties</b>	Not available.

## 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>10.5 Incompatible materials</b>	Reactive or incompatible with the following materials: oxidizing materials
<b>10.6 Hazardous decomposition products</b>	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.	Rat	3421 ppm	1 hours
	LC50 Inhalation Gas.	Rat	1948 ppm	4 hours
	LD50 Dermal	Rabbit	4720 mg/kg	-
	LD50 Oral	Rat	2000 mg/kg	-

**Conclusion/Summary** Not available.

#### Acute toxicity estimates

Route	ATE value
Oral	2010.1 mg/kg
Dermal	1105.5 mg/kg
Inhalation (gases)	1957.8 ppm

#### Irritation/Corrosion

**Conclusion/Summary** Not available.

#### Sensitisation

**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

<b>Inhalation</b>	☒ Toxic if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Ingestion</b>	Irritating to mouth, throat and stomach.
<b>Skin contact</b>	Harmful in contact with skin.
<b>Eye contact</b>	Causes serious eye irritation.

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

<b>Inhalation</b>	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
<b>Ingestion</b>	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
<b>Skin contact</b>	Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations
<b>Eye contact</b>	Adverse symptoms may include the following: pain or irritation watering 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.

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

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
☒ N,N-dimethylformamide	Acute EC50 8485 mg/l Fresh water Acute LC50 >100000 µg/l Marine water Acute LC50 10000 mg/l Fresh water Chronic NOEC 1500 mg/l Fresh water	Daphnia - Daphnia magna Crustaceans - Crangon crangon - Adult Fish - Oncorhynchus mykiss - Fingerling Daphnia - Daphnia magna	2 days 48 hours 96 hours 21 days

**Conclusion/Summary** Not available.

### 12.2 Persistence and degradability

**Conclusion/Summary** Not available.



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

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
N,N-dimethylformamide	-1.01	0.794328234	low

### 12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) 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. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

#### 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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN2265	UN2265	UN2265	UN2265
14.2 UN proper shipping name	N,N-Dimethylformamide (N, N-dimethylformamide)	N,N-Dimethylformamide (N, N-dimethylformamide)	N,N-Dimethylformamide (N, N-dimethylformamide)	N,N-Dimethylformamide (N, N-dimethylformamide)
14.3 Transport hazard classes	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

### 14.6 Special precautions for user

**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.



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

###### **Annex XIV**

None of the components are listed.

###### 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	-

##### Seveso II Directive

☒ This product is controlled under the Seveso II Directive.

##### Danger criteria

###### **Category**

☒ H2: Acute toxicity 2 any route of entry or Acute toxicity 3 Inhalation/Dermal route of entry  
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b

**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]



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Classification	Justification
Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 3, H331 Eye Irrit. 2, H319 Repr. 1B, H360D	On basis of test data Calculation method Calculation method Calculation method 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**

14 March 2014

**Date of issue/ Date of revision**

14 March 2014

**Date of previous issue**

19 October 2012

**Version**

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