

14.11.2012

Kit components

Product code	Description
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20-5900	Gradient Kit
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Components:

1,768	AMMONIUM PERSULPHATE
210	Acrylamide/Bis-acrylamide 30% 37.5:1
1419	BROMOPHENOL BLUE INDICATOR
218	TEMED
223	Urea
2,944	ETHIDIUM BROMIDE SOLUTION
225	Deionised formamide

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2012

Revision: 14.11.2012

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** AMMONIUM PERSULPHATE
- **CAS Number:**
7727-54-0
- **EC number:**
231-786-5
- **Index number:**
016-060-00-6
- **Registration number** 01-2119495973-19
- **Relevant identified uses of the substance or mixture and uses advised against**
Industrial, professional and consumer use.
- **Sector of Use**
SU0 Other
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU21 Consumer uses: Private households / general public / consumers
- **Product category**
PC0 Other
PC14 Metal surface treatment products, including galvanic and electroplating products
PC37 Water treatment chemicals
PC39 Cosmetics, personal care products
- **Process category**
PROC1 Use in closed process, no likelihood of exposure
PROC2 Use in closed, continuous process with occasional controlled exposure
PROC3 Use in closed batch process (synthesis or formulation)
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC6 Calendering operations
PROC7 Industrial spraying
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10 Roller application or brushing
PROC11 Non industrial spraying
PROC13 Treatment of articles by dipping and pouring
PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation
PROC15 Use as laboratory reagent
PROC22 Potentially closed processing operations with minerals/metals at elevated temperature - Industrial setting
PROC23 Open processing and transfer operations with minerals/metals at elevated temperature
- **Environmental release category**
ERC1 Manufacture of substances
ERC2 Formulation of preparations
ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)
ERC6b Industrial use of reactive processing aids
ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
ERC8b Wide dispersive indoor use of reactive substances in open systems
ERC8e Wide dispersive outdoor use of reactive substances in open systems
- **Article category** AC0 Other
- **Application of the substance / the preparation**
The substance has many industrial, professional and consumer applications.

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Trade name: AMMONIUM PERSULPHATE

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· Details of the supplier of the safety data sheet
· Manufacturer/Supplier:

Severn Biotech Ltd.
 Unit 2,
 Park Lane,
 Kidderminster,
 Worcestershire.
 DY11 6TJ
 UK
 Tel: 0044 1562 825286
 Fax: 0044 1562 825284
 email: info@severnbiotech.com

· Further information obtainable from: Product safety department.

· Emergency telephone number: Tel: 0044 1562 825286 (not 24 hours)

2 Hazards identification

· Classification of the substance or mixture
· Classification according to Regulation (EC) No 1272/2008


GHS03 flame over circle

Ox. Sol. 3 H272 May intensify fire; oxidiser.



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC


Xn; Harmful

R22: Harmful if swallowed.



Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.



Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.



O; Oxidising

R8: Contact with combustible material may cause fire.

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- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS03, GHS07, GHS08
- **Signal word** Danger
- **Hazard-determining components of labelling:**
Ammonium persulphate
- **Hazard statements**
H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
- **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P221 Take any precaution to avoid mixing with combustibles.
P260 Do not breathe dust.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P270 Do no eat, drink or smoke when using this product.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
7727-54-0 Ammonium persulphate
- **Identification number(s)**
- **EC number:** 231-786-5
- **Index number:** 016-060-00-6

4 First aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
Seek medical treatment in case of complaints.

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Trade name: AMMONIUM PERSULPHATE

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- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
Check for and remove any contact lenses.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Call for a doctor immediately.
- **Information for doctor:** Treat symptomatically and supportively.
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Water
- **For safety reasons unsuitable extinguishing agents:** Foam
- **Special hazards arising from the substance or mixture**
Strong oxidiser. Contact with combustible or flammable substances may cause fire.
Not combustible but enhances combustion of other substances. Gives off irritating or toxic fumes (or gases) in a fire.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Do not allow to penetrate the ground/soil.
- **Methods and material for containment and cleaning up:**
Do not use combustible materials such as paper towels to clean up spills.
Ensure adequate ventilation.
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
Do NOT absorb in saw-dust or other combustible absorbents.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Handle with care. Avoid jolting, friction and impact.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
Ensure high housekeeping standards to remove build of dust.
Avoid contact with clothing and other combustible materials.
Avoid direct contact (skin contact, ingestion and/or inhalation of fume/mist/dust) with the product.
- **Information about fire - and explosion protection:**
Protect from heat.
Rinse contaminated clothes (fire hazard) with plenty of water.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Do not store on combustible materials such as wooden floors or wooden pallets.
- **Information about storage in one common storage facility:**
Store away from flammable substances.
Store away from foodstuffs.
Do not store together with textiles.
- **Further information about storage conditions:**
Store in a banded area.
Protect from humidity and water.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **DNELs**
WORKERS
Acute / short-term exposure - systemic effects
Dermal DN(M)EL
- DNEL (Derived No Effect Level): 400 mg/kg bw/day

Inhalation DN(M)E
- DNEL (Derived No Effect Level): 590 mg/m³

Acute / short-term exposure - local effects
Dermal DN(M)EL
- DNEL (Derived No Effect Level): 2.248 mg/cm²

Long-term exposure - systemic effects
Dermal DN(M)EL
- DNEL (Derived No Effect Level): 18.2 mg/kg bw/day

Inhalation DN(M)EL
- DNEL (Derived No Effect Level): 2.06 mg/m³

Long-term exposure - local effects
Dermal DN(M)EL

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Trade name: AMMONIUM PERSULPHATE

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- DNEL (Derived No Effect Level): 0.102 mg/cm²

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 2.06 mg/m³

GENERAL POPULATION

Acute / short-term exposure - systemic effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 200 mg/kg bw/day

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 295 mg/m³

Oral DN(M)EL

- DNEL (Derived No Effect Level): 30 mg/kg bw/day

Acute / short-term exposure - local effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 1.124 mg/cm²

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 295 mg/m³

Long-term exposure - systemic effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 9.1 mg/kg bw/day

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 1.03 mg/m³

Oral DN(M)EL

- DNEL (Derived No Effect Level): 9.1 mg/kg bw/day

Long-term exposure - local effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 0.051 mg/cm²

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 1.03 mg/m³

· PNECs

PNEC aqua (freshwater): 0.0763 mg/L

PNEC aqua (marine water): 0.011 mg/L

PNEC aqua (intermittent releases): 0.763 mg/L

PNEC STP: 3.6 mg/L

PNEC sediment (freshwater): 0.275 mg/kg sediment dw

PNEC sediment (marine water): 0.0396 mg/kg sediment dw

PNEC soil: 0.015 mg/kg soil dw

PNEC oral: No potential for bioaccumulation

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

Select PPE appropriate for the operations taking place taking into account the product properties.

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

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Avoid contact with the eyes and skin.

Do not eat, drink, smoke or sniff while working.

Do not breath dust

A safe system of work must be formulated and followed to ensure safe working with this product.

Relevant workers must receive suitable and sufficient training and supervision.

Rinse contaminated clothes (fire hazard) with plenty of water. Do NOT take working clothes home.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Crystalline

Colour: White

· **Odour:** Odourless

· **pH-value at 20 °C:** 1.5

· **Change in condition**

Melting point/Melting range: 120 °C (decomposes)

Boiling point/Boiling range: Decomposes

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Contact with combustible material may cause fire.

· **Ignition temperature:** >600 °C

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density at 20 °C:** 1.26 g/cm³

· **Bulk density at 20 °C:** 950-1050 kg/m³

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- **Solubility in / Miscibility with water at 20 °C:** >1000 g/l
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Substance is shock sensitive and thermally unstable. Decomposes when heated. May decompose on exposure to air or water.
Risk of fire and explosion on contact with combustible substances and reducing agents.
- **Possibility of hazardous reactions**
Acts as an oxidizing agent on organic materials such as wood, paper and fats.
If in solution, reacts violently with iron, powdered aluminium and silver salts.
The solution in water is a medium strong acid.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
Metals, reducing agents, aluminium, copper, finely powdered metals, iron, magnesium, zinc, lead, silver, nickel, combustible/flammable materials.
- **Hazardous decomposition products:**
The substance decomposes on heating producing toxic and corrosive fumes including ammonia, nitrogen oxides and sulfur oxides.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

LD/LC50 values relevant for classification:
7727-54-0 Ammonium persulphate

Oral	LD50	700 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50/4 h	>2.95 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
- **Subacute to chronic toxicity:**
EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: Repeated or prolonged inhalation exposure may cause asthma. Repeated or prolonged contact with skin may cause dermatitis. Repeated or prolonged contact may cause skin sensitisation. May cause general allergic reaction, like urticaria or shock.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

INHALATION RISK: Evaporation at 20 °C is negligible; a harmful concentration of airborne particles

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can, however, be reached quickly on spraying or when dispersed, especially if powdered.

EFFECTS OF SHORT-TERM EXPOSURE: The substance is irritating to the eyes, the skin and the respiratory tract. Inhalation of dust may cause asthma-like reactions.

Anyone who has shown symptoms of asthma due to this substance should avoid all further contact. The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

7727-54-0 Ammonium persulphate

EC50	120 mg/kg (daphnia)
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- **Persistence and degradability** No further relevant information available.

- **Behaviour in environmental systems:**

- **Bioaccumulative potential** Product is not expected to bioaccumulate.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

Never add other substances or combustible waste to product residues.

- **European waste catalogue**

Waste key numbers in accordance with the European Waste catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

- **Uncleaned packaging:**

- **Recommendation:**

Do not mix with other waste streams.

Container remains hazardous when empty. Continue to observe all precautions.

Disposal must be made according to official regulations.

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Trade name: AMMONIUM PERSULPHATE

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· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	1444
· UN proper shipping name	
· ADR	1444 AMMONIUM PERSULPHATE
· IMDG, IATA	AMMONIUM PERSULPHATE
· Transport hazard class(es)	
· ADR, IMDG, IATA	
	
· Class	5.1 Oxidising substances.
· Label	5.1
· Packing group	
· ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Oxidising substances.
· Danger code (Kemler):	50
· EMS Number:	F-A,S-Q
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN1444, AMMONIUM PERSULPHATE, 5.1, III

15 Regulatory information

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Product safety department.

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1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Acrylamide/Bis-acrylamide 30% 37.5:1
- **Registration number**
Mixture
Acrylamide: 01-2119463260-48
- **Relevant identified uses of the substance or mixture and uses advised against** Laboratory agent.
- **Application of the substance / the preparation**
Reactive monomer solution for the production of polymers.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Severn Biotech Ltd.
Unit 2,
Park Lane,
Kidderminster,
Worcestershire.
DY11 6TJ
UK
Tel: 0044 1562 825286
Fax: 0044 1562 825284
email: info@severnbiotech.com
- **Further information obtainable from:** Product safety department.
- **Emergency telephone number:** Tel: 0044 1562 825286 (not 24 hours)

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Muta. 1B H340 May cause genetic defects.
 Carc. 1B H350 May cause cancer.
 Repr. 2 H361f Suspected of damaging fertility.
 STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
 Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T; Toxic

R45-46-25-48/23/24/25: May cause cancer. May cause heritable genetic damage. Toxic if swallowed.
 Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.



Xn; Harmful

R20/21-62: Harmful by inhalation and in contact with skin. Possible risk of impaired fertility.

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Trade name: Acrylamide/Bis-acrylamide 30% 37.5:1

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Xi; Irritant

R36/38: Irritating to eyes and skin.



Xi; Sensitising

R43: May cause sensitisation by skin contact.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms** GHS07, GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

acrylamide

· **Hazard statements**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H340 May cause genetic defects.

H350 May cause cancer.

H361f Suspected of damaging fertility.

H372 Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P270 Do not eat, drink or smoke when using this product.

P260 Do not breathe mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/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 do. Continue rinsing.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

79-06-1 acrylamide

· **Identification number(s)**

· **EC number:** 201-173-7

· **Index number:** 616-003-00-0

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Trade name: Acrylamide/Bis-acrylamide 30% 37.5:1

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· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

CAS: 79-06-1 EINECS: 201-173-7	acrylamide  T Carc. Cat. 2, Muta. Cat. 2 R45-46-25-48/23/24/25;  Xn R20/21-62;  Xi R36/38;  Xi R43 Repr. Cat. 3  Acute Tox. 3, H301;  Muta. 1B, H340; Carc. 1B, H350; Repr. 2, H361f; STOT RE 1, H372;  Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	10-50%
CAS: 110-26-9 EINECS: 203-750-9	N,N-Methylene Bis Acrylamide  Xn R22  Acute Tox. 4, H302	<2.5%

· **SVHC**

79-06-1	acrylamide
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· **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**

DO NOT DELAY!

If skin irritation continues, consult a doctor.

Immediately wash with water and soap and rinse thoroughly.

MAY BE ABSORBED through the skin!

· **After eye contact:**

DO NOT DELAY!

Check for and remove any contact lenses.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

DO NOT DELAY!

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

· **Information for doctor:**

Treat symptomatically and supportively.

No specific antidote.

As ingestion may cause central and peripheral nervous system depression, do not induce vomiting because of the danger of aspiration.

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
Gives off irritating or toxic fumes (or gases) in a fire.
Elevated temperatures or contamination may cause material to polymerise causing a pressure buildup that may violently rupture tanks or containers.
- **Advice for firefighters**
- **Protective equipment:**
Wear fully protective suit.
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Avoid formation of dust.
- **Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable receptacles.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Avoid direct contact (skin contact, ingestion and/or inhalation of fume/mist/dust) with the product.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Safety showers and eye wash facilities should be available at the work area.
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Never mouth pipette acrylamide solutions.
Take note of assigned workplace exposure limits.
Do NOT take working clothes home. Launder contaminated clothing before reuse.
Safety showers and eye wash facilities should be available within easy reach of the work areas.
Laboratories should be equipped with suitable exhaust ventilation and fume cupboards.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Prevent any seepage into the ground.
Light sensitive. Store in light-resistant containers. Keep container tightly closed.
Keep container in a cool, well-ventilated area. Do not store above 23 °C (73.4°F). Preferably store in a refrigerator at 4 °C
Keep away from heat sources and direct sunlight. Storage temperatures should be ideally maintained below 4 degs. C.
Heating in an open container may cause loss of oxygen.
Packaged product should be consumed on a first in, first out basis.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
Store away from reducing agents.
Store away from metals.
Store away from foodstuffs.
Do not store with chelating agents.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

79-06-1 acrylamide

WEL	Long-term value: 0.3 mg/m ³ Carc; Sk
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- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
Select PPE appropriate for the operations taking place taking into account the product properties.
- **General protective and hygienic measures:**
Do not eat, drink, smoke or sniff while working.
Storing food in the working area is prohibited.
A safe system of work must be formulated and followed to ensure that workers who may be pregnant or breastfeeding do not come into direct contact with the product.
A safe system of work must be formulated and followed to ensure safe working with this product.
Relevant workers must receive suitable and sufficient training and supervision.
Take note of assigned Workplace Exposure Limits.
Do not inhale gases / fumes / aerosols.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
Ensure that eyewash stations and safety showers are close to the workstation location.
Depending on the degree of exposure, periodic medical examination is suggested.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

For operations where skin contact with this material can occur, wear impervious gloves (e.g. PVC or nitrile).

WASH GLOVES THOROUGHLY BEFORE REMOVING AND DISCARD GLOVES THAT ARE CONTAMINATED ON THE INSIDE.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:**

Impervious protective clothing

For operations where skin contact with this material can occur, wear rubber or neoprene shoes or boots (leather is unsuitable unless covered) and impervious disposable coveralls that provide head, arm and foot protection from contact with this material.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Fluid
Colour:	Clear
Odour:	Characteristic
Odour threshold:	Not determined.

· **pH-value:** 5-8

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:**

Decomposition temperature: Not determined.

· **Self-igniting:** Product is not selfigniting.

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· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	23 hPa
· Density at 20 °C:	1.0-1.7 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**

- **Chemical stability**

The component substances are stable at room temperature but may polymerise violently when heated above 50 °C.

- **Thermal decomposition / conditions to be avoided:**

Elevated temperatures or contamination may cause material to polymerise causing a pressure buildup that may violently rupture tanks or containers.

- **Possibility of hazardous reactions**

Acrylamide is incompatible with reducing agents, copper, aluminium, brass and braoze. Iron or rust may trigger rapid exothermic polymerisation of solutions.

Reacts spontaneously with hydroxyl-, amino-, and sulfhydryl- containing compounds. Reacts vigorously with acids, bases producing ammonia salts and acrylic acid.

Spontaneous polymerisation does not readily occur, but requires the presence of dimethylaminopropionitrile (DMAPN) catalyst and ammonium persulphate. Also, acrylamide may polymerise upon contact with oxidizing materials such as peroxides.

- **Conditions to avoid** Do not overheat.

- **Incompatible materials:**

Strong acids and oxidising agents

Reducing agents.

Finely powdered metals.

- **Hazardous decomposition products:**

Carbon monoxide and carbon dioxide

Ammonia

Nitrogen oxides (NO_x)

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

79-06-1 acrylamide		
Oral	LD50	177 mg/kg (rat)
Dermal	LD50	1141 mg/kg (rat)
110-26-9 N,N-Methylene Bis Acrylamide		
Oral	LD50	390 mg/kg (rat)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** Irritating effect.

- **Sensitization:** Sensitization possible through skin contact.

- **Other information (about experimental toxicology):**

Acrylamide is readily absorbed by oral, dermal and inhalative routes..

EFFECTS OF SHORT-TERM EXPOSURE: The substance is irritating to the eyes, the skin and the respiratory tract. The substance may cause effects on the central nervous system.

Depending on the degree of exposure, periodic medical examination is suggested.

- **Subacute to chronic toxicity:**

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The substance may have effects on the nervous system, resulting in peripheral nerve damage. This substance is probably carcinogenic to humans. May cause heritable genetic damage in humans.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Toxic

Harmful

Irritant

Carcinogenic.

The product can cause inheritable damage.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

79-06-1 acrylamide	
EC50	98 mg/kg (daphnia)

- **Persistence and degradability** Easily biodegradable

- **Behaviour in environmental systems:**

- **Bioaccumulative potential** Product is not expected to bioaccumulate.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

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Trade name: Acrylamide/Bis-acrylamide 30% 37.5:1

· **Other adverse effects** No further relevant information available.

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13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Contact waste processors for recycling information.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

Employees engaged in disposal of acrylamide should be thoroughly trained in effective procedures and protected from any possibility to skin or eye contact or inhalation of dusts, fumes or vapours.

Waste acrylamide monomer and containers that have held acrylamide monomer can be a hazard. Do not let such waste material into municipal waste treatment or landfill operations. Containers must be rinsed thoroughly and then can be disposed by burning in an approved industrial incinerator or buried in an approved landfill.

· **European waste catalogue**

Waste key numbers in accordance with the European Waste catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

· **Uncleaned packaging:**

· **Recommendation:** Container remains hazardous when empty. Continue to observe all precautions.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· **UN-Number**

· **ADR, IMDG, IATA**

UN3426

· **UN proper shipping name**

· **ADR**

3426 ACRYLAMIDE SOLUTION

· **IMDG, IATA**

ACRYLAMIDE SOLUTION

· **Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class**

6.1 Toxic substances.

· **Label**

6.1

· **Packing group**

· **ADR, IMDG, IATA**

III

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Toxic substances.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

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Trade name: Acrylamide/Bis-acrylamide 30% 37.5:1

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· Transport/Additional information:
· ADR

· Limited quantities (LQ)	5L
· Tunnel restriction code	E

· UN "Model Regulation":	UN3426, ACRYLAMIDE SOLUTION, 6.1, III
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15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
· National regulations:
· Information about limitation of use:

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· Other regulations, limitations and prohibitive regulations
· Substances of very high concern (SVHC) according to REACH, Article 57

79-06-1	acrylamide
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· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H340	May cause genetic defects.
H350	May cause cancer.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure.
R20/21	Harmful by inhalation and in contact with skin.
R22	Harmful if swallowed.
R25	Toxic if swallowed.
R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R45	May cause cancer.
R46	May cause heritable genetic damage.
R48/23/24/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R62	Possible risk of impaired fertility.

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1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** TEMED
- **CAS Number:**
110-18-9
- **EC number:**
203-744-6
- **Index number:**
612-103-00-3
- **Registration number**
A registration number is not available for this substance because the annual tonnage is less than that required for registration or the registration date is envisaged for a later registration deadline.
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation** Laboratory chemical
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Severn Biotech Ltd.
Unit 2,
Park Lane,
Kidderminster,
Worcestershire.
DY11 6TJ
UK
Tel: 0044 1562 825286
Fax: 0044 1562 825284
email: info@severnbiotech.com
- **Further information obtainable from:** Product safety department.
- **Emergency telephone number:** Tel: 0044 1562 825286 (not 24 hours)

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



C; Corrosive

R34: Causes burns.

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Trade name: TEMED

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Xn; Harmful

R20/22: Harmful by inhalation and if swallowed.



F; Highly flammable

R11: Highly flammable.

· **Information concerning particular hazards for human and environment:** Not applicable.

· **Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms** GHS02, GHS05, GHS07

· **Signal word** Danger

· **Hazard-determining components of labelling:**

N,N,N',N'-tetramethylethylenediamine

· **Hazard statements**

H225 Highly flammable liquid and vapour.

H302+H332 Harmful if swallowed or if inhaled.

H314 Causes severe skin burns and eye damage.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P303+P361+P353 IF ON SKIN (or hair): Remove/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 do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

110-18-9 N,N,N',N'-tetramethylethylenediamine

· **Identification number(s)**

· **EC number:** 203-744-6

· **Index number:** 612-103-00-3

4 First aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
DO NOT DELAY!
If skin irritation continues, consult a doctor.
Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
DO NOT DELAY!
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Drink plenty of water and provide fresh air. Call for a doctor immediately.
Do not induce vomiting; call for medical help immediately.
- **Information for doctor:** Treat symptomatically and supportively.
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- **Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear self-contained respiratory protective device.
Wear fully protective suit.
Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Keep ignition sources away - no smoking.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Send for recovery or disposal in suitable receptacles.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.

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- **Reference to other sections**
- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
- Avoid direct contact (skin contact, ingestion and/or inhalation of fume/mist/dust) with the product.
- Safety showers and eye wash facilities should be available at the work area.
- Welding and other hot work operations in the work area must only be permitted under supervision.
- Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:**
- Keep ignition sources away - Do not smoke.
- Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
- Prevent any seepage into the ground.
- Store in a cool location.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**
- Keep container tightly sealed.
- Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- Select PPE appropriate for the operations taking place taking into account the product properties.
- **General protective and hygienic measures:**
- Do not eat, drink, smoke or sniff while working.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- A safe system of work must be formulated and followed to ensure safe working with this product.
- Relevant workers must receive suitable and sufficient training and supervision.
- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Avoid contact with the eyes and skin.
- **Respiratory protection:**
- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Solvent resistant protective clothing

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Fluid
Colour:	Clear
Odour:	Amine-like
Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	118 °C

· **Flash point:** 18 °C

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:**

Decomposition temperature: Not determined.

· **Self-igniting:** Not determined.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapour pressure:** Not determined.

· **Density at 20 °C:** 0.78 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

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· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
To avoid thermal decomposition do not overheat.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
Strong acids and oxidising agents
Strong bases.
- **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Nitrogen oxides (NO_x)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values relevant for classification:		
110-18-9 N,N,N',N'-tetramethylethylenediamine		
Oral	LD50	1580 mg/kg (rat)
Dermal	LD50	5390 mg/kg (rabbit)

- **Primary irritant effect:**

- **on the skin:** Caustic effect on skin and mucous membranes.

- **on the eye:** Strong caustic effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** biodegradable
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** Product is not expected to bioaccumulate.
- **Mobility in soil** No further relevant information available.

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Trade name: TEMED


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- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralized.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Contact waste processors for recycling information.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.
- **European waste catalogue**
Waste key numbers in accordance with the European Waste catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.
- **Uncleaned packaging:**
- **Recommendation:**
Container remains hazardous when empty. Continue to observe all precautions.
Containers, even those that are "empty," may contain residues that can develop flammable vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

14 Transport information

- | | |
|---|------------------------------------|
| UN-Number | |
| ADR, IMDG, IATA | UN2372 |
| UN proper shipping name | |
| ADR | 2372 1,2-DI-(DIMETHYLAMINO) ETHANE |
| IMDG, IATA | 1,2-DI-(DIMETHYLAMINO) ETHANE |
| Transport hazard class(es) | |
| ADR, IMDG, IATA | |
|  | |
| Class | 3 Flammable liquids. |
| Label | 3 |
| Packing group | |
| ADR, IMDG, IATA | II |

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Trade name: TEMED

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· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1L
· Transport category	2
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN2372, ,2-DI-(DIMETHYLAMINO) ETHANE, 3, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **National regulations:**

Class	Share in %
NK	100.0

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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Revision: 01.11.2012

1 Identification of the substance/mixture and of the company/undertaking

· **Product identifier**

· **Trade name:** Urea

· **CAS Number:**

57-13-6

· **EC number:**

200-315-5

· **Registration number** 01-2119463277-33

· **Relevant identified uses of the substance or mixture and uses advised against**

Resin and polymers manufacture; Waste gas treatment - NOx reduction; Cleaning and maintenance products; Manufacture of textiles, leather, fur; Raw material in the cement, steel and glass industry; Production of pharmaceuticals; Raw material for further synthesis; manufacture of fungicides; Manufacture of fire resistance products; Uses in cosmetic industries; Use as nutrient in sewage treatment plants; Use as laboratory agent; Use of processing aids; Use in plant protection products; Soil remediation; Mining; De-icing agent; Manufacture and application of powder coatings, all other coatings and inks; Biocides; Manufacturing of solid, liquid or suspension fertilizers; Resin manufacture urea used as an intermediate for further synthesis. Resins used for production of panelboards, impregnated paper; used in manufacturing of glues, adhesives, sealants; manufacture of coatings and inks; Stabilisation in mining and quarries; Feed additive; used as an Intermediate for production of AdBlue; used as an Intermediate for organic products, plastics in primary form and glues; monomer for production of polymers; Treating or coating of seed with Fertilizer; Industrial USE of substance, as such or in a mixture, for surface/article treatment (e.g. metal, leather/textiles, plastics, wood, electronics/semiconductors, insulation, hardening, etchant); Industrial USE of substance in manufacture of paper products; Industrial USE of substance as a laboratory/research chemical; Manufacture of fire resistance products; Plant protection products; Cleaning & maintenance products: Industrial & professional use of laundry products; professional use of dishwash products; professional use of general surface cleaning products; professional use of floor care products; industrial use of food proces; Resin & polymers manufacture: urea used as an intermediate for further synthesis. Urea- Formaldehyde, Melamine-Urea-Formaldehyde, Melamine- Urea-Phenol-Formaldehyde and Phenol-Formaldehyde Adhesives. Resins used for production of panelboards, impregnate; Cooling system; HEAT Treatment; Manufacture of food products; Metal treatment; Neutralization agent; Substance used for reduction of nitrogen oxides; Wate gas treatment in the sulphuric acid or sulphur synthesis or removal of SO2 from flue gases; wood treatment; Gelation of ceramic cases (investments) in investment foundry; Anorganic fluorides synthesis; Production of hydroxylaminesulphate as an intermediate for caprolactam production; Ammonium diuranate precipitation process; Preparation of tetraamminecopper(II) catalyst; Electronics industries; Raw material in the cement industry; Explosives.

· **Sector of Use**

SU1 Agriculture, forestry, fishery

SU2a Mining, (without offshore industries)

SU2b Offshore industries

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU4 Manufacture of food products

SU5 Manufacture of textiles, leather, fur

SU6a Manufacture of wood and wood products

SU6b Manufacture of pulp, paper and paper products

SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

SU9 Manufacture of fine chemicals

SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

SU11 Manufacture of rubber products

SU12 Manufacture of plastics products, including compounding and conversion

SU13 Manufacture of other non-metallic mineral products, e.g. plasters, cement

SU14 Manufacture of basic metals, including alloys

SU15 Manufacture of fabricated metal products, except machinery and equipment

SU16 Manufacture of computer, electronic and optical products, electrical equipment

SU17 General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment

SU19 Building and construction work

SU21 Consumer uses: Private households / general public / consumers

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

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SU23 Electricity, steam, gas water supply and sewage treatment

SU24 Scientific research and development

Product category

PC0 Other

PC1 Adhesives, sealants

PC2 Adsorbents

PC3 Air care products

PC4 Anti-Freeze and de-icing products

PC8 Biocidal products (e.g. Disinfectants, pest control)

PC9a Coatings and paints, thinners, paint removers

PC9b Fillers, putties, plasters, modelling clay

PC10: Building and construction preparations

PC11 Explosives

PC12 Fertilizers

PC14 Metal surface treatment products, including galvanic and electroplating products

PC15 Non-metal-surface treatment products

PC16 Heat transfer fluids

PC18 Ink and toners

PC19 Intermediate

PC20 Products such as ph-regulators, flocculants, precipitants, neutralization agents

PC21 Laboratory chemicals

PC27 Plant protection products

PC29 Pharmaceuticals

PC32 Polymer preparations and compounds

PC34 Textile dyes, finishing and impregnating products; including bleaches and other processing aids

PC35 Washing and cleaning products (including solvent based products)

PC37 Water treatment chemicals

PC39 Cosmetics, personal care products

PC40 Extraction agents

Process category

PROC0: Other

PROC1 Use in closed process, no likelihood of exposure

PROC2 Use in closed, continuous process with occasional controlled exposure

PROC3 Use in closed batch process (synthesis or formulation)

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC6 Calendering operations

PROC7 Industrial spraying

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC10 Roller application or brushing

PROC11 Non industrial spraying

PROC13 Treatment of articles by dipping and pouring

PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation

PROC15 Use as laboratory reagent

PROC19 Hand-mixing with intimate contact and only PPE available

PROC20 Heat and pressure transfer fluids in dispersive, professional use but closed systems

PROC18 Greasing at high energy conditions

PROC22 Potentially closed processing operations with minerals/metals at elevated temperature - Industrial setting

PROC23 Open processing and transfer operations with minerals/metals at elevated temperature

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- PROC25 Other hot work operations with metals
 PROC26 Handling of solid inorganic substances at ambient temperature
- **Environmental release category**
 ERC0 Other
 ERC1 Manufacture of substances
 ERC2 Formulation of preparations
 ERC3 Formulation in materials
 ERC4 Industrial use of processing aids in processes and products, not becoming part of articles
 ERC5 Industrial use resulting in inclusion into or onto a matrix
 ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)
 ERC6b Industrial use of reactive processing aids
 ERC6c Industrial use of monomers for manufacture of thermo-plastics
 ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
 ERC7 Industrial use of substances in closed systems
 ERC8a Wide dispersive indoor use of processing aids in open systems
 ERC8b Wide dispersive indoor use of reactive substances in open systems
 ERC8c Wide dispersive indoor use resulting in inclusion into or onto a matrix
 ERC8d Wide dispersive outdoor use of processing aids in open systems
 ERC8f Wide dispersive outdoor use resulting in inclusion into or onto a matrix
 ERC9a Wide dispersive indoor use of substances in closed systems
 ERC9b Wide dispersive outdoor use of substances in closed systems
 ERC10a Wide dispersive outdoor use of long-life articles and materials with low release
 ERC11b Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)
- **Article category**
 AC0 Other
 AC1 Vehicles
 AC2 Machinery, mechanical appliances, electrical/electronic articles
 AC3 Electrical batteries and accumulators
 AC5 Fabrics, textiles and apparel
 AC7 Metal articles
 AC11 Wood articles
 AC13 Plastic articles
- **Application of the substance / the preparation**
 The substance has many industrial, professional and consumer applications.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 Severn Biotech Ltd.
 Unit 2,
 Park Lane,
 Kidderminster,
 Worcestershire.
 DY11 6TJ
 UK
 Tel: 0044 1562 825286
 Fax: 0044 1562 825284
 email: info@severnbiotech.com
- **Further information obtainable from:** Product safety department.
 · **Emergency telephone number:** Tel: 0044 1562 825286 (not 24 hours)

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Trade name: Urea

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2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
The substance is not classified according to the CLP regulation.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
- **Information concerning particular hazards for human and environment:** Not applicable.
- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
57-13-6 Urea
- **Identification number(s)**
- **EC number:** 200-315-5

4 First aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately rinse with water.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
- **Information for doctor:** Treat symptomatically and supportively.
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:

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- Nitrogen oxides (NO_x)
- Not combustible.
- Gives off irritating or toxic fumes (or gases) in a fire.
- **Advice for firefighters**
- **Protective equipment:**
- Wear self-contained respiratory protective device.
- Wear fully protective suit.
- Do not inhale explosion gases or combustion gases.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
- Avoid formation of dust.
- Ensure adequate ventilation
- Keep ignition sources away - no smoking.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
- Pick up mechanically.
- Send for recovery or disposal in suitable receptacles.
- **Reference to other sections**
- No dangerous substances are released.
- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
- Prevent formation of dust.
- Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**
- Protect from humidity and water.
- Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **DNELs**
- WORKERS
- Acute / short-term exposure - systemic effects
- Dermal DN(M)EL
- DNEL (Derived No Effect Level): 580 mg/kg bw/day
- Inhalation DN(M)EL

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Trade name: Urea

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- DNEL (Derived No Effect Level): 292 mg/m³

Long-term exposure - systemic effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 580 mg/kg bw/day

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 292 mg/m³

General population

Acute / short-term exposure - systemic effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 580 mg/kg bw/day

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 125 mg/m³

Oral DN(M)EL

- DNEL (Derived No Effect Level): 42 mg/kg bw/day

Long-term exposure - systemic effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 580 mg/kg bw/day

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 125 mg/m³

Oral DN(M)EL

- DNEL (Derived No Effect Level): 42 mg/kg bw/day

· PNECs PNEC aqua (freshwater): 0.047 mg/L

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

Select PPE appropriate for the operations taking place taking into account the product properties.

· **General protective and hygienic measures:**

Avoid close or long term contact with the skin.

Do not eat, drink, smoke or sniff while working.

Do not breath dust

Avoid contact with the eyes.

Wash hands before breaks and at the end of work.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Safety glasses

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Trade name: Urea

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· **Body protection:** Protective work clothing

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Crystalline powder
--------------	--------------------

Colour:	White
----------------	-------

· Odour:	Ammonia-like
-----------------	--------------

· Odour threshold:	Not determined.
---------------------------	-----------------

· pH-value at 20 °C:	9.2
-----------------------------	-----

· Change in condition

Melting point/Melting range:	135 °C (decomp)
-------------------------------------	-----------------

Boiling point/Boiling range:	Undetermined.
-------------------------------------	---------------

· Flash point:	Not applicable.
-----------------------	-----------------

· Flammability (solid, gaseous):	Product is not flammable.
---	---------------------------

· Ignition temperature:

Decomposition temperature:	Not determined.
-----------------------------------	-----------------

· Self-igniting:	Not determined.
-------------------------	-----------------

· Danger of explosion:	Product does not present an explosion hazard.
-------------------------------	---

· Explosion limits:

Lower:	Not determined.
---------------	-----------------

Upper:	Not determined.
---------------	-----------------

· Vapour pressure:	Not applicable.
---------------------------	-----------------

· Density at 20 °C:	1.323 g/cm ³
----------------------------	-------------------------

· Bulk density at 20 °C:	725-760 kg/m ³
---------------------------------	---------------------------

· Relative density	Not determined.
---------------------------	-----------------

· Vapour density	Not applicable.
-------------------------	-----------------

· Evaporation rate	Not applicable.
---------------------------	-----------------

· Solubility in / Miscibility with water at 20 °C:	800 g/l
---	---------

· Partition coefficient (n-octanol/water):	Not determined.
---	-----------------

· Viscosity:

Dynamic:	Not applicable.
-----------------	-----------------

Kinematic:	Not applicable.
-------------------	-----------------

· Other information	No further relevant information available.
----------------------------	--

10 Stability and reactivity

· Reactivity

· Chemical stability

· Thermal decomposition / conditions to be avoided:

The substance decomposes on heating above melting point producing toxic gases.

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Trade name: Urea

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- **Possibility of hazardous reactions**
Reacts violently with strong oxidants, nitrites, inorganic chlorides, chlorites and perchlorates causing fire and explosion hazard.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
Strong oxidising agents.
Nitrate, chlorites, perchlorates.
- **Hazardous decomposition products:**
Nitrogen oxides (NO_x)
Carbon monoxide and carbon dioxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values relevant for classification:		
57-13-6 Urea		
Oral	LD50	>5000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:** Repeated or prolonged contact with skin may cause dermatitis.
- **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.
The substance is not subject to classification according to the latest version of the EU lists.

ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

INHALATION RISK: Evaporation at 20 °C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly if powdered.

12 Ecological information

- **Toxicity**

· Aquatic toxicity:		
57-13-6 Urea		
EC50	>10000 mg/kg	(daphnia)

- **Persistence and degradability** biodegradable
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** Product is not expected to bioaccumulate.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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Trade name: Urea

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- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Contact waste processors for recycling information.
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.
- **European waste catalogue**
Waste key numbers in accordance with the European Waste catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- | | |
|--|--|
| · UN-Number
· ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name
· ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es)
· ADR, ADN, IMDG, IATA
· Class | Void |
| · Packing group
· ADR, IMDG, IATA | Void |
| · Environmental hazards:
· Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | - |

15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing MSDS:** Product safety department.

Safety data sheet

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1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** ETHIDIUM BROMIDE SOLUTION
- **Registration number**
A registration number is not available for this substance because the annual tonnage is less than that required for registration or the registration date is envisaged for a later registration deadline.
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation** Laboratory reagent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Severn Biotech Ltd.
Unit 2,
Park Lane,
Kidderminster,
Worcestershire.
DY11 6TJ
UK
Tel: 0044 1562 825286
Fax: 0044 1562 825284
email: info@severnbiotech.com
- **Further information obtainable from:** Product safety department.
- **Emergency telephone number:** Tel: 0044 1562 825286 (not 24 hours)

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.

-
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T; Toxic

R23: Toxic by inhalation.



Xn; Harmful

R68: Possible risk of irreversible effects.

- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
 - **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
-

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS08
- **Signal word** Warning

- **Hazard-determining components of labelling:**
Ethidium bromide
- **Hazard statements**
H341 Suspected of causing genetic defects.

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Trade name: ETHIDIUM BROMIDE SOLUTION

(Contd. of page 1)

· Precautionary statements

- P101 If medical advice is needed, have product container or label at hand.
 P102 Keep out of reach of children.
 P103 Read label before use.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P270 Do not eat, drink or smoke when using this product.
 P260 Do not breathe mist/vapours/spray.
 P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

· Other hazards
· Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Substances
· CAS No. Description

1239-45-8 Ethidium bromide

· Identification number(s)
· **EC number:** 214-984-6· **Index number:** 612-278-00-6· **Description:** An aqueous solution of ethidium bromide.
· Dangerous components:

CAS: 1239-45-8	Ethidium bromide
EINECS: 214-984-6	T+ R26; Xn R22-68 Muta. Cat. 3
	Acute Tox. 2, H330; Muta. 2, H341; Acute Tox. 4, H302

· Additional information: For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· Description of first aid measures
· General information: Immediately remove any clothing soiled by the product.

· After inhalation:

DO NOT DELAY!

Call a doctor immediately.

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

Do not use mouth to mouth artificial respiration - use an Ambu Bag.

· After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· After eye contact:

Check for and remove any contact lenses.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

· Information for doctor: Treat symptomatically and supportively.

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Trade name: ETHIDIUM BROMIDE SOLUTION

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- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
HBr
- **Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow product to reach sewage system or any water course.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable receptacles.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Avoid direct contact (skin contact, ingestion and/or inhalation of fume/mist/dust) with the product.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidizing agents.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in a banded area.

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- Protect from frost.
- Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
Select PPE appropriate for the operations taking place taking into account the product properties.
- **General protective and hygienic measures:**
Do not eat, drink, smoke or sniff while working.
Do not inhale gases / fumes / aerosols.
A safe system of work must be formulated and followed to ensure that workers who may be pregnant or breastfeeding do not come into direct contact with the product.
A safe system of work must be formulated and followed to ensure safe working with this product.
Relevant workers must receive suitable and sufficient training and supervision.
Ensure that eyewash stations and safety showers are close to the workstation location.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Area first aid kits should contain an Ambu Bag.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses
- **Body protection:** Impervious protective clothing

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Colour: Red

· **Odour:** Mild

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: approx. 0 °C

Boiling point/Boiling range: approx. 100 °C

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:**

Decomposition temperature: Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapour pressure at 20 °C:** 23 hPa

· **Density at 20 °C:** 1.0 g/cm³

· **Relative density:** Not determined.

· **Vapour density:** Not determined.

· **Evaporation rate:** Not determined.

· **Solubility in / Miscibility with**

water: Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

· **Other information:** No further relevant information available.

10 Stability and reactivity

· **Reactivity**

· **Chemical stability**

· **Thermal decomposition / conditions to be avoided:**

 No decomposition if used and stored according to specifications.

· **Possibility of hazardous reactions:** No dangerous reactions known.

· **Conditions to avoid:** No further relevant information available.

· **Incompatible materials:** Strong acids and oxidising agents

· **Hazardous decomposition products:**

 Hydrogen bromide

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Trade name: ETHIDIUM BROMIDE SOLUTION

Carbon monoxide and carbon dioxide

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Toxic

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Behaviour in environmental systems:**

- **Bioaccumulative potential** Product is not expected to bioaccumulate.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation**

Contact waste processors for recycling information.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

- **European waste catalogue**

Waste key numbers in accordance with the European Waste catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

- **Uncleaned packaging:**

- **Recommendation:** Container remains hazardous when empty. Continue to observe all precautions.

- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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14 Transport information

· UN-Number · ADR, IMDG, IATA	UN2810
· UN proper shipping name · ADR · IMDG, IATA	2810 TOXIC LIQUID, ORGANIC, N.O.S. TOXIC LIQUID, ORGANIC, N.O.S.
· Transport hazard class(es) · ADR, IMDG, IATA	
	
· Class · Label	6.1 Toxic substances. 6.1
· Packing group · ADR, IMDG, IATA	III
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user	Warning: Toxic substances.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Tunnel restriction code	5L D/E
· UN "Model Regulation":	UN2810, TOXIC LIQUID, ORGANIC, N.O.S., 6.1, III

15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
H302 Harmful if swallowed.
H330 Fatal if inhaled.
H341 Suspected of causing genetic defects.
- **Hazard statements**
R22 Harmful if swallowed.
R26 Very toxic by inhalation.
R68 Possible risk of irreversible effects.

Safety data sheet

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1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name: Deionised formamide**
- **CAS Number:**
75-12-7
- **EC number:**
200-842-0
- **Index number:**
616-052-00-8
- **Registration number** 01-2119496064-35
- **Relevant identified uses of the substance or mixture and uses advised against**
Use as intermediate; Manufacture of another substance; Use as laboratory chemical; Reagent chemicals;
Use as a solvent.
- **Sector of Use**
SU0 Other
SU 0-1 Manufacture of basic pharmaceutical products and pharmaceutical preparations
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU8 Manufacture of bulk, large scale chemicals (including petroleum products)
SU9 Manufacture of fine chemicals
SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
SU24 Scientific research and development
- **Product category**
PC0 Other
PC19 Intermediate
PC21 Laboratory chemicals
PC29 Pharmaceuticals
- **Process category**
PROC1 Use in closed process, no likelihood of exposure
PROC2 Use in closed, continuous process with occasional controlled exposure
PROC3 Use in closed batch process (synthesis or formulation)
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10 Roller application or brushing
PROC15 Use as laboratory reagent
- **Environmental release category**
ERC1 Manufacture of substances
ERC2 Formulation of preparations
ERC4 Industrial use of processing aids in processes and products, not becoming part of articles
ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)
ERC6b Industrial use of reactive processing aids
ERC7 Industrial use of substances in closed systems
ERC8a Wide dispersive indoor use of processing aids in open systems
ERC8b Wide dispersive indoor use of reactive substances in open systems
ERC8c Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC8d Wide dispersive outdoor use of processing aids in open systems
- **Application of the substance / the preparation**
Industrial intermediate.
Solvent.
Laboratory chemical.

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Trade name: Deionised formamide

(Contd. of page 1)

- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 Severn Biotech Ltd.
 Unit 2,
 Park Lane,
 Kidderminster,
 Worcestershire.
 DY11 6TJ
 UK
 Tel: 0044 1562 825286
 Fax: 0044 1562 825284
 email: info@severnbiotech.com
- **Further information obtainable from:** Product safety department.
- **Emergency telephone number:** Tel: 0044 1562 825286 (not 24 hours)

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Repr. 1B H360D May damage the unborn child.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



T; Toxic

Repr. Cat. 2

R61: May cause harm to the unborn child.

- **Information concerning particular hazards for human and environment:** Not applicable.

- **Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms** GHS08
- **Signal word** Danger

- **Hazard-determining components of labelling:**

Formamide

- **Hazard statements**

H360D May damage the unborn child.

- **Precautionary statements**

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read label before use.
- P281 Use personal protective equipment as required.
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

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Trade name: Deionised formamide

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· **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
75-12-7 Formamide
- **Identification number(s)**
- **EC number:** 200-842-0
- **Index number:** 616-052-00-8

· **SVHC**

75-12-7	Formamide
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4 First aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; call for medical help immediately.
- **Information for doctor:** Treat symptomatically and supportively.
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture**
Burning may produce toxic and irritant gases: ammonia, hydrogen cyanide (hydrocyanic acid), carbon monoxide, nitrogen oxides (NO_x).
- **Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Keep ignition sources away - no smoking.

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Trade name: Deionised formamide

(Contd. of page 3)

- **Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Send for recovery or disposal in suitable receptacles.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Avoid direct contact (skin contact, ingestion and/or inhalation of fume/mist/dust) with the product.
Open and handle receptacle with care.
Safety showers and eye wash facilities should be available at the work area.
Use only in closed systems.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
Store away from metals.
Store away from foodstuffs.
- **Further information about storage conditions:** Store in a banded area.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

75-12-7 Formamide

WEL	Short-term value: 56 mg/m ³ , 30 ppm
	Long-term value: 37 mg/m ³ , 20 ppm

- **DNELs**
WORKERS
Long-term exposure - systemic effects
Dermal DN(M)EL
- DNEL (Derived No Effect Level): 0.952 mg/kg bw/day

Inhalation DN(M)EL
- DNEL (Derived No Effect Level): 0.66 mg/m³

Long-term exposure - local effects
Inhalation DN(M)EL
DNEL (Derived No Effect Level): 6.66 mg/m³
- **PNECs**
PNEC aqua (freshwater): 0.5 mg/L
PNEC aqua (marine water): 0.5 mg/L

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Trade name: Deionised formamide

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PNEC aqua (intermittent releases): 5 mg/L

PNEC STP: 100 mg/L

PNEC sediment (freshwater): 1.26 mg/kg sediment dw

PNEC soil: 0.151 mg/kg soil dw

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

Select PPE appropriate for the operations taking place taking into account the product properties.

· **General protective and hygienic measures:**

Pregnant women should strictly avoid inhalation or skin contact.

Do not eat, drink, smoke or sniff while working.

Storing food in the working area is prohibited.

Ensure that eyewash stations and safety showers are close to the workstation location.

Take note of assigned Workplace Exposure Limits.

A safe system of work must be formulated and followed to ensure that workers who may be pregnant or breastfeeding do not come into direct contact with the product.

A safe system of work must be formulated and followed to ensure safe working with this product.

Relevant workers must receive suitable and sufficient training and supervision.

Depending on the degree of exposure, periodic medical examination is suggested.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

· **Respiratory protection:**

In case of insufficient ventilation, wear suitable respiratory equipment. (filter ABEK-P2)

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Glove material: Solvent-resistant gloves (butyl-rubber)

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Goggles recommended during refilling

· **Body protection:**

Impervious protective clothing

Wear nitrile rubber boots.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Colour: Yellowish

· **Odour:** Odourless

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Trade name: Deionised formamide

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· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	2.5 °C
Boiling point/Boiling range:	218 °C
· Flash point:	152 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	>400 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Not determined.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	0.03 hPa
· Density at 20 °C:	1.08 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
Corrodes metals: Aluminium, Iron, Copper. Corrodes natural rubber.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
Oxidizing agents, Acids, Bases, iodine, pyridine, sulphur trioxide, Aluminium, Iron, Copper, natural rubber.
- **Hazardous decomposition products:**
Ammonia, hydrogen cyanide (hydrocyanic acid), carbon monoxide, nitrogen oxides (NO_x).

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Trade name: Deionised formamide

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

75-12-7 Formamide

Oral	LD50	5570 mg/kg (rat)
Dermal	LD50	>3000 mg/kg (rat)
Inhalative	LC50/4 h	>21 mg/l (rat)

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Subacute to chronic toxicity:**

Effects of long-term or repeated exposure: Animal tests indicate that this substance possibly causes toxic effects upon human reproduction.

- **Additional toxicological information:**

Routes of exposure: The substance can be absorbed into the body by inhalation of its vapour, through the skin and by ingestion.

Inhalation risk: A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20 degs. C.

Effects of short-term exposure: The substance is slightly irritating to the eyes and skin. The substance may cause effects on the central nervous system.

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Repr. 1B

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

75-12-7 Formamide

EC50	>100 mg/kg (daphnia)
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- **Persistence and degradability** biodegradable

- **Behaviour in environmental systems:**

- **Bioaccumulative potential** Product is not expected to bioaccumulate.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

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Trade name: Deionised formamide

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Contact waste processors for recycling information.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.
- **European waste catalogue**
Waste key numbers in accordance with the European Waste catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.
- **Uncleaned packaging:**
- **Recommendation:**
Container remains hazardous when empty. Continue to observe all precautions.
Do not mix with other waste streams.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· UN-Number	
· ADR, ADN, IMDG, IATA	Void
· UN proper shipping name	
· ADR, ADN, IMDG, IATA	Void
· Transport hazard class(es)	
· ADR, ADN, IMDG, IATA	
· Class	Void
· Packing group	
· ADR, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	-

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**

Class	Share in %
NK	100.0

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Trade name: Deionised formamide

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- **Other regulations, limitations and prohibitive regulations**

- **Substances of very high concern (SVHC) according to REACH, Article 57**

75-12-7	Formamide
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- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

GB