

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 08.11.2012

Revision: 08.11.2012

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

· **Product identifier**

· **Trade name:** 8M Urea Solution

· **Article number:** 20-2222-10

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

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

Resin and polymers manufacture; Waste gas treatment - NO_x 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; Waste 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)

SU23 Electricity, steam, gas water supply and sewage treatment

SU24 Scientific research and development

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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
- PROC25 Other hot work operations with metals
- PROC26 Handling of solid inorganic substances at ambient temperature

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· **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)

2 Hazards identification

· **Classification of the substance or mixture**

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

The product is not classified according to the CLP regulation.

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- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
 - **Information concerning particular hazards for human and environment:**
The product does not have 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.
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- **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
- **Chemical characterization: Mixtures**
- **Description:** An aqueous solution of urea
- **Dangerous components:** Void
- **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:** 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.

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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:
Nitrogen oxides (NOx)
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** Ensure adequate ventilation
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **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.
- **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 aerosols.
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 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.

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- **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

- 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.

- Avoid contact with the skin.

- Do not inhale gases / fumes / aerosols.

- Wash hands before breaks and at the end of work.

- **Respiratory protection:** Not required.

- **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**

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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

Goggles recommended during refilling

- **Body protection:** Protective work clothing

9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form: Fluid

Colour: Clear

- **Odour:** Ammonia-like

- **Odour threshold:** Not determined.

- **pH-value at 20 °C:** 9.3

- **Change in condition**

Melting point/Melting range: 0.6 °C

Boiling point/Boiling range: 105 °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:** 1.11 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.

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· Other information	No further relevant information available.
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10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
The residue upon evaporation decomposes on heating above melting point producing toxic gases.
- **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:**
The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.
When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.
ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

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.

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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.
- **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.
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

<ul style="list-style-type: none"> · UN-Number · ADR, ADN, IMDG, IATA 	Void
<ul style="list-style-type: none"> · UN proper shipping name · ADR, ADN, IMDG, IATA 	Void
<ul style="list-style-type: none"> · Transport hazard class(es) · ADR, ADN, IMDG, IATA · Class 	Void
<ul style="list-style-type: none"> · Packing group · ADR, IMDG, IATA 	Void
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	No
<ul style="list-style-type: none"> · Special precautions for user 	Not applicable.
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information: 	Not dangerous according to the above specifications.
<ul style="list-style-type: none"> · UN "Model Regulation": 	-

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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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