

*SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006*

**AMMONIA SOLUTION  $\geq$ 25% - 35% (910 - 880)**

Version 3.0

Print Date 2012/05/30

Revision Date 2012/05/30

MSDS code: MVVV250

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

**1.1. Product identifier**

Trade name : AMMONIA SOLUTION  $\geq$ 25% - 35% (910 - 880)  
 Substance name : ammonia  
 Index-No. : 007-001-01-2  
 CAS-No. : 1336-21-6  
 EC-No. : 215-647-6  
 Registration number : 01-2119488876-14-xxxx

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

Use of the Substance/Mixture : At this time we do not yet have information on identified uses. They will be included in this safety data sheet when available.  
 Uses advised against : At this moment we have not identified any uses advised against

**1.3. Details of the supplier of the safety data sheet**

Company : Brenntag UK & Ireland  
 Albion House, Rawdon Park  
 GB LS19 7XX Leeds Yeadon  
 Telephone : 0113 3879 200  
 Telefax : 0113 3879 280  
 E-mail address : msds@brenntag.co.uk

**1.4. Emergency telephone number**

Emergency telephone number : Emergency only telephone number (open 24 hours):  
 01865 407333 (N.C.E.C. Culham)

**2. Hazards identification**

**2.1. Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Skin corrosion	Category 1B	---	H314

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Specific target organ toxicity - single exposure	Category 3	---	H335
Acute aquatic toxicity	Category 1	---	H400

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Directive 67/548/EEC or 1999/45/EC	
Hazard symbol / Category of danger	Risk phrases
Corrosive (C)	R34
Dangerous for the environment (N)	R50

For the full text of the R-phrases mentioned in this Section, see Section 16.

**Most important adverse effects**

Human Health : See section 11 for toxicological information.  
 Physical and chemical hazards : See section 9 for physicochemical information.  
 Potential environmental effects : See section 12 for environmental information.

**2.2. Label elements****Labelling according to Regulation (EC) No 1272/2008**

Hazard symbols :



Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.  
 H335 May cause respiratory irritation.  
 H400 Very toxic to aquatic life.

Precautionary statements

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Prevention	:	P273 P280	Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response	:	P301 + P330 + P331 P303 + P361 + P353 P304 + P340 P305 + P351 + P338 P308 + P310	IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Immediately call a POISON CENTER or doctor/ physician.

**Hazardous components which must be listed on the label:**

- ammonia

**2.3. Other hazards**

For Results of PBT and vPvB assessment see section 12.5.  
Harmful effects to aquatic organisms due to pH-shift.

**3. Composition/information on ingredients****3.1. Substances**

Chemical nature : Aqueous solution

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)		Classification (67/548/EEC)
		Hazard class / Hazard category	Hazard statements	
ammonia				

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Index-No.	: 007-001-01-2	Skin Corr.1B	H314	C; R34
CAS-No.	: 1336-21-6	Aquatic Acute1	H400	N; R50
EC-No.	: 215-647-6	$\geq 25 - \leq 35$	STOT SE3	H335
Registration	: 01-2119488876-14-xxxx			
C&L-No.	: 02-2119752451-43-0000			

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 4. First aid measures

##### 4.1. Description of first aid measures

General advice	: Take off all contaminated clothing immediately.
If inhaled	: In case of accident by inhalation: remove casualty to fresh air and keep at rest. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.
In case of skin contact	: Wash off immediately with soap and plenty of water. Call a physician immediately.
In case of eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult an eye specialist immediately. Go to an ophthalmic hospital if possible.
If swallowed	: Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician immediately.

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

Symptoms	: Respiratory irritation, Skin irritation, Eye irritation, Cough, See Section 11 for more detailed information on health effects and symptoms.
Effects	: See Section 11 for more detailed information on health effects and symptoms.

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

Treatment	: Treat symptomatically.
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#### 5. Firefighting measures

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**5.1. Extinguishing media**

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. The product itself does not burn.
- Unsuitable extinguishing media : None known.

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

- Specific hazards during firefighting : Incomplete combustion may form toxic pyrolysis products.

**5.3. Advice for firefighters**

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Wear appropriate body protection (full protective suit)
- Further information : Cool closed containers exposed to fire with water spray. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

**6. Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

- Personal precautions : Use personal protective equipment. Keep people away from and upwind of spill/leak. Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapours or spray mist.

**6.2. Environmental precautions**

- Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

**6.3. Methods and materials for containment and cleaning up**

- Methods and materials for containment and cleaning up : Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed containers for disposal.
- Further information : Treat recovered material as described in the section "Disposal considerations".

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### **6.4. Reference to other sections**

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

## **7. Handling and storage**

### **7.1. Precautions for safe handling**

Advice on safe handling : Keep container tightly closed. Use personal protective equipment. Avoid contact with the skin and the eyes. Do not breathe vapours or spray mist. Use respirator with appropriate filter if vapours or aerosol are released. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Take off all contaminated clothing immediately.

### **7.2. Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Keep in an area equipped with alkali resistant flooring. Store in original container.

Advice on protection against fire and explosion : The product is not flammable. Normal measures for preventive fire protection.

Further information on storage conditions : Keep tightly closed in a dry and cool place. Keep away from direct sunlight.

Advice on common storage : Keep away from food, drink and animal feedingstuffs. Do not store near acids.

### **7.3. Specific end uses**

Specific use(s) : No information available.

## **8. Exposure controls/personal protection**

### **8.1. Control parameters**

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**Component: ammonia**

**CAS-No.**

**1336-21-6**

**Derived No Effect Level (DNEL)**

Workers, Acute - systemic effects, Skin contact	: 6.8 mg/kg bw/day
Workers, Long-term - systemic effects, Skin contact	: 6.8 mg/kg bw/day
Workers, Acute - systemic effects, Inhalation	: 47.6 mg/m <sup>3</sup>
Workers, Acute - local effects, Inhalation	: 36 mg/m <sup>3</sup>
Workers, Long-term - systemic effects, Inhalation	: 47.6 mg/m <sup>3</sup>
Workers, Long-term - local effects, Inhalation	: 14 mg/m <sup>3</sup>
Consumers, Acute - systemic effects, Skin contact	: 68 mg/kg bw/day
Consumers, Long-term - systemic effects, Skin contact	: 68 mg/kg bw/day
Consumers, Acute - systemic effects, Inhalation	: 23.8 mg/m <sup>3</sup>
Consumers, Acute - local effects, Inhalation	: 7.2 mg/m <sup>3</sup>
Consumers, Long-term - systemic effects, Inhalation	: 23.8 mg/m <sup>3</sup>
Consumers, Long-term - local effects, Inhalation	: 2.8 mg/m <sup>3</sup>
Consumers, Acute - systemic effects, Ingestion	: 6.8 mg/kg bw/day
Consumers, Long-term - systemic effects, Ingestion	: 6.8 mg/kg bw/day

**Predicted No Effect Concentration (PNEC)**

Fresh water	: 0.0011 mg/l
Marine water	: 0.0011 mg/l
Intermittent releases	: 0.0068 mg/l

**Other Occupational Exposure Limit Values**

EU ELV, Time Weighted Average (TWA):

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20 ppm, 14 mg/m<sup>3</sup>  
Indicative

EU ELV, Short Term Exposure Limit (STEL):  
50 ppm, 36 mg/m<sup>3</sup>  
Indicative

EH40 WEL, Time Weighted Average (TWA):  
25 ppm, 18 mg/m<sup>3</sup>

EH40 WEL, Short Term Exposure Limit (STEL):  
35 ppm, 25 mg/m<sup>3</sup>

ELV (NO)  
5 ppm, 9 mg/m<sup>3</sup>

### 8.2. Exposure controls

#### Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

#### Personal protective equipment

##### *Respiratory protection*

Advice : Required, if exposure limit is exceeded (e.g. OEL).  
In case of brief exposure or low pollution use breathing filter apparatus.  
Recommended Filter type:K  
In case of intensive or longer exposure use self-contained breathing apparatus.

##### *Hand protection*

Advice : The glove material has to be impermeable and resistant to the product / the substance / the preparation.  
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).  
Protective gloves should be replaced at first signs of wear.  
The following materials are suitable:

Material : butyl-rubber  
Break through time :  $\geq$  8 h  
Glove thickness : 0.5 mm



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Material : fluorocarbon rubber  
Break through time :  $\geq 8$  h  
Glove thickness : 0.4 mm

### Eye protection

Advice : Tightly fitting safety goggles

### Skin and body protection

Advice : alkali resistant protective clothing

### Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.  
Avoid subsoil penetration.  
If the product contaminates rivers and lakes or drains inform respective authorities.  
If material reaches soil inform authorities responsible for such cases.

## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Form : liquid  
Colour : colourless  
Odour : ammoniacal  
Odour Threshold : 5 ppm  
pH :  $> 12$  (20 °C)  
Melting point/range :  $< 0$  °C  
Boiling point/boiling range : no data available  
Flash point : not applicable  
Evaporation rate : no data available

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Flammability (solid, gas)	:	not applicable
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	0.880 - 0.910
Water solubility	:	completely soluble
Partition coefficient: n-octanol/water	:	no data available
Ignition temperature	:	not applicable
Thermal decomposition	:	no data available
Viscosity, dynamic	:	no data available
Explosivity	:	Product is not explosive.
Oxidizing properties	:	not oxidising

### 9.2. Other information

No further information available.

## 10. Stability and reactivity

### 10.1. Reactivity

Advice : No information available.

### 10.2. Chemical stability

Advice : No decomposition if stored and applied as directed.  
No further information available.

### 10.3. Possibility of hazardous reactions

Hazardous reactions : Exothermic reaction with: Acids

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**MSDS code: MVVV250****10.4. Conditions to avoid**

Conditions to avoid : Heat.  
Thermal decomposition : no data available

**10.5. Incompatible materials**

Materials to avoid : Aluminium, Zinc, Strong acids

**10.6. Hazardous decomposition products**

Hazardous decomposition products : No information available.

**11. Toxicological information****11.1. Information on toxicological effects****Acute toxicity****Oral**

Please find this information in the listing of the component/components below in the MSDS.

**Inhalation**

no data available

**Dermal**

Please find this information in the listing of the component/components below in the MSDS.

**Irritation****Skin**

Causes skin burns.

**Eyes**

Causes serious eye damage.

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**MSDS code: MVVV250****Sensitisation**

Please find this information in the listing of the component/components below in the MSDS.

**CMR effects****CMR Properties**

- Carcinogenicity : Please find this information in the listing of the component/components below in the MSDS.
- Mutagenicity : Please find this information in the listing of the component/components below in the MSDS.
- Teratogenicity : Please find this information in the listing of the component/components below in the MSDS.
- Reproductive toxicity : Please find this information in the listing of the component/components below in the MSDS.

**Specific Target Organ Toxicity****Single exposure**

- Inhalation : May cause respiratory irritation.

**Repeated exposure**

- remark : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Other toxic properties****Aspiration toxicity**

No aspiration toxicity classification

**Further information**

- Other relevant toxicity information : If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

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**Component: ammonia**

**CAS-No.**

**1336-21-6**

**Acute toxicity**

**Oral**

Study scientifically not justified.

**Dermal**

Study scientifically not justified.

**Irritation**

**Skin**

corrosive effects (rabbit) (OECD Test Guideline 404)

**Eyes**

Severe eye irritation (rabbit)  
Risk of serious damage to eyes.

**Sensitisation**

not sensitizing (guinea pig)

**CMR effects**

**CMR Properties**

- Carcinogenicity : Animal testing did not show any carcinogenic effects.
- Mutagenicity : Animal testing did not show any mutagenic effects.
- Teratogenicity : Did not show teratogenic effects in animal experiments.
- Reproductive toxicity : Animal testing did not show any effects on fertility.

**Specific Target Organ Toxicity**

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#### Single exposure

Inhalation : May cause respiratory irritation.

#### Repeated exposure

remark : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### Other toxic properties

#### Aspiration toxicity

No aspiration toxicity classification

## 12. Ecological information

### 12.1. Toxicity

Component: ammonia

CAS-No.  
1336-21-6

#### Acute toxicity

##### Fish

LC50 : 0.89 mg/l (Fish; 96 h)

#### Toxicity to daphnia and other aquatic invertebrates

EC50 : 24 mg/l (Daphnia magna; 48 h)

### 12.2. Persistence and degradability

Component: ammonia

CAS-No.  
1336-21-6

#### Persistence and degradability

##### Persistence

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Result : no data available

#### Biodegradability

Result : Readily biodegradable.

#### 12.3. Bioaccumulative potential

Component: ammonia

CAS-No.  
1336-21-6

#### Bioaccumulation

Result : Bioaccumulation is not expected.  
log Pow < 1

#### 12.4. Mobility in soil

Component: ammonia

CAS-No.  
1336-21-6

#### Mobility

: The product is mobile in water environment.

#### 12.5. Results of PBT and vPvB assessment

Component: ammonia

CAS-No.  
1336-21-6

#### Results of PBT and vPvB assessment

Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

#### 12.6. Other adverse effects

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### Additional ecological information

Result : Very toxic to aquatic organisms.  
Do not flush into surface water or sanitary sewer system.  
Avoid subsoil penetration.

## 13. Disposal considerations

### 13.1. Waste treatment methods

Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.

Contaminated packaging : Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

## 14. Transport information

### 14.1. UN number

2672

### 14.2. UN proper shipping name

ADR : AMMONIA SOLUTION  
RID : AMMONIA SOLUTION  
IMDG : AMMONIA SOLUTION

### 14.3. Transport hazard class(es)

ADR-Class : 8  
(Labels; Classification Code; Hazard identification No; Tunnel restriction code) 8; C5; 80; (E)  
RID-Class : 8



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(Labels; Classification Code; Hazard identification No)	8; C5; 80
IMDG-Class (Labels; EmS)	: 8 8; F-A, S-B

**14.4. Packaging group**

ADR	: III
RID	: III
IMDG	: III

**14.5. Environmental hazards**

Labeling according to 5.2.1.8 ADR	: Fish and tree
Labeling according to 5.2.1.8 RID	: Fish and tree
Labeling according to 5.2.1.6.3 IMDG	: Fish and tree
Classification as environmentally hazardous according to 2.9.3 IMDG	: yes

**14.6. Special precautions for user**

Not applicable.

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

IMDG : Not applicable.

**15. Regulatory information**

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

Other regulations : Occupational restrictions: Take note of Dir 92/85/EEC on the safety and health of pregnant workers at work and of Dir 94/33/EC on the protection of young people at work.

**15.2. Chemical Safety Assessment**

Currently we do not have any information from our supplier about this.

**16. Other information**

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**Full text of R-phrases referred to under sections 2 and 3.**

R34	Causes burns.
R50	Very toxic to aquatic organisms.

**Full text of H-Statements referred to under sections 2 and 3.**

H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.

**Further information**

Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text

|| Indicates updated section.