



# Armor Blue

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue Date : 03/14/2017 Revision Date: 10/20/2023

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : Armor Blue  
CAS-No. : 57-13-6

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : NOx Abatement Solution

#### 1.3. Supplier

Ports Petroleum Company, Inc.  
1337 Blachleyville Road  
Wooster, Ohio, 44691  
T 1-800-562-0373  
[defsales@portspetro.com](mailto:defsales@portspetro.com) - [www.portspetroleum.com](http://www.portspetroleum.com)

#### 1.4. Emergency telephone number

Emergency number : Chemtrec: (800) 424-9300

### SECTION 2: Hazard(s) identification

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

##### GHS US classification

Not classified

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

No labeling applicable

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

No additional information available

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

| Name  | Common Name (Synonyms)                                      | Product identifier | %       | GHS US classification |
|-------|---|--------------------|---------|-----------------------|
| Urea  | Carbamide / Carbonyl diamide / UREA / Carbonic acid diamide | CAS-No.: 57-13-6   | 31 – 70 | Not classified        |
| Water | AQUA / Aqua   | CAS-No.: 7732-18-5 |         | Not classified        |

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Full text of hazard classes and H-statements : see section 16

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

|                                       |  |
|---------------------------------------|--|
| First-aid measures general            | : Consult a doctor/medical service if you feel unwell.   |
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing. Remove victim to fresh air and keep at rest in a position comfortable for breathing.                                  |
| First-aid measures after skin contact | : Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention. Avoid prolonged and repeated contact with skin. Wash skin with plenty of water.        |
| First-aid measures after eye contact  | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists. |
| First-aid measures after ingestion    | : Rinse mouth. Call a doctor if you feel unwell.   |

#### 4.2. Most important symptoms and effects (acute and delayed)

|                                     |  |
|-------------------------------------|--|
| Symptoms/effects                    | : Not expected to present a significant hazard under anticipated conditions of normal use. |
| Symptoms/effects after skin contact | : May cause moderate irritation.   |
| Symptoms/effects after eye contact  | : Mild eye irritation.   |

#### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

|                              |   |
|------------------------------|---|
| Suitable extinguishing media | : Water spray. Water fog. Foam. Dry powder. Carbon dioxide. |
|------------------------------|---|

#### 5.2. Specific hazards arising from the chemical

|  |                                   |
|--|-----------------------------------|
| Fire hazard                                      | : Carbon oxides. Nitrogen oxides. |
| Hazardous decomposition products in case of fire | : Toxic fumes may be released.    |

#### 5.3. Special protective equipment and precautions for fire-fighters

|                                |  |
|--------------------------------|--|
| Firefighting instructions      | : Exercise caution when fighting any chemical fire.  |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

### SECTION 6: Accidental release measures

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

|                  |   |
|------------------|---|
| General measures | : Avoid breathing (dust, vapor, mist, gas). |
|------------------|---|

##### 6.1.1. For non-emergency personnel

|                      |  |
|----------------------|--|
| Protective equipment | : Wear suitable respiratory equipment in case of insufficient ventilation. Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact. |
| Emergency procedures | : Ventilate spillage area. Avoid contact with skin and eyes.   |

##### 6.1.2. For emergency responders

|                      |  |
|----------------------|--|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Stop leak if safe to do so.  |

#### 6.2. Environmental precautions

Avoid release to the environment.

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### 6.3. Methods and material for containment and cleaning up

- For containment : Absorb remaining liquid with sand or inert absorbent and remove to safe place.
- Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.
- Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with skin and eyes. Do not breathe vapors. Do not eat, drink or smoke when using this product. Do not handle until all safety precautions have been read and understood.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

- Technical measures : Comply with applicable regulations.
- Storage conditions : Keep container closed when not in use. Store in a well-ventilated place. Keep cool. Store in a well-ventilated place. Keep cool.
- Storage temperature : 2 – 8 °C
- Storage area : Store in a well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

|  |                      |
|--|----------------------|
| <b>Armor Blue (57-13-6)</b>                      |                      |
| No additional information available              |                      |
| <b>Urea (57-13-6)</b>                            |                      |
| <b>USA - AIHA - Occupational Exposure Limits</b> |                      |
| WEEL TWA   | 10 mg/m <sup>3</sup> |
| <b>Water (7732-18-5)</b>                         |                      |
| No additional information available              |                      |

### 8.2. Appropriate engineering controls

- Appropriate engineering controls : General industrial hygiene practice. Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

|  |
|--|
| <b>Materials for protective clothing:</b>          |
| Impervious clothing. Footwear (shoes, boots)       |
| <b>Hand protection:</b>                            |
| protective gloves                                  |
| <b>Eye protection:</b>                             |
| Chemical goggles or safety glasses. Safety glasses |

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### Skin and body protection:

Wear suitable protective clothing

### Respiratory protection:

Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Personal protective equipment symbol(s):



## SECTION 9: Physical and chemical properties

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

|   |  |
|---|--|
| Physical state                                  | : Liquid   |
| Appearance                                      | : Colorless liquid.  |
| Color   | : Colorless  |
| Odor  | : Ammonia-like   |
| Odor threshold                                  | : No data available  |
| pH  | : 10   |
| Melting point                                   | : Not applicable   |
| Freezing point                                  | : No data available  |
| Boiling point                                   | : 106 °C 50% Urea Solution   |
| Flash point                                     | : No data available  |
| Relative evaporation rate (butyl acetate=1)     | : No data available  |
| Flammability (solid, gas)                       | : Not applicable.  |
| Vapor pressure                                  | : No data available  |
| Relative vapor density at 20°C                  | : No data available  |
| Relative density                                | : No data available  |
| Solubility                                      | : Water: Solubility in water of component(s) of the mixture : • Urea: 590 g/l (at 20 °C) |
| Partition coefficient n-octanol/water (Log Pow) | : No data available  |
| Auto-ignition temperature                       | : No data available  |
| Decomposition temperature                       | : 130 °C   |
| Viscosity, kinematic                            | : No data available  |
| Viscosity, dynamic                              | : No data available  |
| Explosion limits                                | : No data available  |
| Explosive properties                            | : No data available  |
| Oxidizing properties                            | : No data available  |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

oxidizing materials.

### 10.6. Hazardous decomposition products

Carbon oxides, Nitrogen oxides (NOx).

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

| Urea (57-13-6) |                        |
|----------------|------------------------|
| LD50 oral rat  | 8471 mg/kg             |
| ATE US (oral)  | 8471 mg/kg body weight |

| Water (7732-18-5)         |                            |
|---------------------------|----------------------------|
| LD50 oral rat             | > 90 ml/kg                 |
| Skin corrosion/irritation | : Not classified<br>pH: 10 |

| Urea (57-13-6)                |                                     |
|-------------------------------|-------------------------------------|
| pH                            | 7.2 (conc: 10 % (aqueous solution)) |
| Serious eye damage/irritation | : Not classified<br>pH: 10          |

| Urea (57-13-6)                      |  |
|-------------------------------------|--|
| pH                                  | 7.2 (conc: 10 % (aqueous solution))  |
| Respiratory or skin sensitization   | : Not classified   |
| Germ cell mutagenicity              | : Not classified   |
| Carcinogenicity                     | : Not classified   |
| Reproductive toxicity               | : Not classified   |
| STOT-single exposure                | : Not classified   |
| STOT-repeated exposure              | : Not classified   |
| Aspiration hazard                   | : Not classified   |
| Viscosity, kinematic                | : No data available  |
| Symptoms/effects                    | : Not expected to present a significant hazard under anticipated conditions of normal use. |
| Symptoms/effects after skin contact | : May cause moderate irritation.   |
| Symptoms/effects after eye contact  | : Mild eye irritation.   |

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

| Urea (57-13-6)       |   |
|----------------------|---|
| LC50 - Fish [1]      | 16200 – 18300 mg/l (Exposure time: 96 h - Species: Poecilia reticulata) |
| EC50 - Crustacea [1] | 3910 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])       |

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### 12.2. Persistence and degradability

| Water (7732-18-5)             |                  |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |

### 12.3. Bioaccumulative potential

| Urea (57-13-6)                                  |                  |
|---|------------------|
| BCF - Fish [1]                                  | < 10             |
| Partition coefficient n-octanol/water (Log Pow) | -1.59 (at 25 °C) |

| Water (7732-18-5)         |                  |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
Sewage disposal recommendations : Do not dispose of waste into sewer.  
Product/Packaging disposal recommendations : Avoid release to the environment. Dispose of contents/container to all .

## SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

### 14.1. UN number

Not regulated for transport

### 14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable  
Proper Shipping Name (TDG) : Not applicable  
Proper Shipping Name (IMDG) : Not applicable  
Proper Shipping Name (IATA) : Not applicable

### 14.3. Transport hazard class(es)

**DOT**  
Transport hazard class(es) (DOT) : Not applicable

**TDG**  
Transport hazard class(es) (TDG) : Not applicable

**IMDG**  
Transport hazard class(es) (IMDG) : Not applicable

**IATA**  
Transport hazard class(es) (IATA) : Not applicable

### 14.4. Packing group

Packing group (DOT) : Not applicable  
Packing group (TDG) : Not applicable  
Packing group (IMDG) : Not applicable  
Packing group (IATA) : Not applicable

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### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Special precautions for user

#### DOT

UN-No.(DOT) : Not dangerous goods

#### TDG

UN-No. (TDG) : Not dangerous goods

#### IMDG

No data available

#### IATA

No data available

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

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

### 15.2. International regulations

#### CANADA

##### Urea (57-13-6)

Listed on the Canadian DSL (Domestic Substances List)

##### Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

##### Urea (57-13-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

##### Water (7732-18-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

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### National regulations

#### Urea (57-13-6)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Japanese ISHL (Industrial Safety and Health Law)  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on CIGR (Turkish Inventory and Control of Chemicals)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)

#### Water (7732-18-5)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on KECL/KECI (Korean Existing Chemicals Inventory)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

### SECTION 16: Other information

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Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.