

# Safety Data Sheet

FORMULA 4111

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## 1. IDENTIFICATION

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**Product Name:** FORMULA 4111 **Revised:** 8/9/2018

**Chemical Name:** Monocarbamide Dihydrogen Sulfate

**Description:** Colorless liquid with no odor

**Recommended Use:** Acidic Cleaner

**Restrictions on Use:** For industrial use only. Not for use in treating drinking water or some food processing cooling systems.

### COMPANY IDENTIFICATION

PROASYS

318 HENDEL STREET

SHILLINGTON, PA 19607

**PHONE NUMBER:** (610) 775-1505

### EMERGENCY PHONE NUMBERS

CHEMTREC (800) 424-9300

Outside USA: CHEMTREC COLLECT (703) 527-3887

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## 2. HAZARD(S) IDENTIFICATION

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### GHS Classification:

Serious eye damage/irritation - Category 1

Skin corrosion/irritation - Category 1B

Specific target organ toxicity, single exposure; respiratory tract irritation - Category 3

Acute toxicity, oral - Category 4

Hazardous to the aquatic environment, acute hazard - Category 3

**Signal Word:** Danger

**Symbol(s):**



### Hazard Statements:

Causes severe skin burns and eye damage.

May cause respiratory irritation.

Harmful if swallowed.

Harmful to aquatic life.

### Precautionary Statements:

#### Prevention

Do not breathe dusts or mists. Avoid breathing dusts or mists. Do not get in eyes, on skin, or on clothing. Wash hands, forearms, gloves and contaminated surfaces thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Wear protective gloves/eye protection/face protection.

#### Response

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CONTROL CENTER or doctor for treatment advice.

**IF ON SKIN (or hair):** Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower. Specific treatment (see First Aid on SDS or on this label).

**IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Call a POISON CONTROL CENTER or doctor for treatment advice if you feel unwell.

**IF SWALLOWED:** Rinse mouth. Do NOT induce vomiting. Call a POISON CONTROL CENTER or doctor for treatment advice if you feel unwell.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

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

**Hazards Not Otherwise Classified:** None Known.

**Percentages of Components with Unknown Acute Toxicity:** None Known.

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

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Component	CAS-No.	Concentration
Monocarbamide Dihydrogen Sulfate	21351-39-3	50 - 100%

\* Exposure limit and regulatory information in Sections 8 & 15

\*\* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

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### 4. FIRST AID MEASURES

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**Eye Contact:** Immediately flush eyes with a directed stream of cool, clear water for at least 30 minutes. Forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissues. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Do not allow individual to rub their eyes. Get medical attention urgently, preferably from an ophthalmologist. Do not transport the victim until the recommended flushing period is completed, unless a portable emergency eye wash bottle is immediately available.

**Skin Contact:** Immediately wash skin with soap and plenty of water while removing contaminated clothing, for at least 15-20 minutes. Call a poison control center or doctor for treatment advice. Do not take contaminated clothing home to be laundered. Shoes and other leather items which cannot be decontaminated should be disposed of properly. Suitable emergency safety shower facility should be immediately available.

**Inhalation:** Remove victim to fresh air. If individual experiences nausea, headache, dizziness, has difficulty in breathing or is cyanotic, seek medical attention. If not breathing, give artificial respiration via a suitable mechanical device such as a bag and mask. Do not use mouth-to-mouth resuscitation.

**Ingestion:** Do not induce vomiting. Rinse mouth with copious quantities of water first and get immediate medical attention. Drink several glasses of water. Never give anything by mouth to an unconscious person. If vomiting occurs, keep airways clear.

**Note to Physician:** There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Aspiration may cause lung damage. Probable mucosal damage may contraindicate the use of gastric lavage.

#### Most Important Symptoms/Effects:

**Eye Contact:** May cause severe irritation or burns. Prolonged contact may cause irreversible damage and/or blindness.

**Skin Contact:** Prolonged contact may cause severe irritation, rash or burns. Severity is generally determined by concentration of solution and duration of contact.

**Inhalation:** Inhalation of vapor or mist can cause severe irritation of nose, throat, and lungs. May cause damage to the upper respiratory tract and lungs under severe conditions.

**Ingestion:** May be toxic. May cause severe irritation or burns of the mouth, throat, and internal tissues resulting in possible nausea and/or vomiting. Large amounts can result in acute toxic effects which may be fatal.

#### Indication of Immediate Medical Attention and Special Treatment, if Necessary:

Other than acute, none known. See section 11 for toxicological information.

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## 5. FIRE FIGHTING MEASURES

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**Suitable (and Unsuitable) Extinguishing Media:** Water spray or fog, foam, dry chemical or carbon dioxide

**Specific Hazards Arising from the Chemical:** Product is corrosive to eyes, skin, and respiratory system. Closed containers may rupture (due to buildup of pressure) when exposed to extreme heat. If evaporated to dryness, some product residuals may burn. Contact with some metals may generate explosive hydrogen gas. Thermal decomposition may release oxides of carbon, nitrogen and ammonia.

**Special Protective Equipment and Precautions for Fire-Fighters:** Wear self-contained breathing apparatus and full turn-out gear. Approach fire from upwind direction. If possible, move containers away from fire. Cool fire exposed containers with water spray. If containers rupture or leak, product may evolve irritating or toxic gas under extreme heat. Contain runoff.

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## 6. ACCIDENTAL RELEASE MEASURES

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### Spill Containment and Clean-up Instructions:

Wear suitable protective equipment found in section 8. Small spills may be flushed with copious quantities of water, preferably to a sanitary sewer or waste treatment facility. Larger spills may require neutralization prior to flushing or absorbed in sawdust or other absorbent and sweeping disposed of in an approved landfill. The area may then be flushed with copious quantities of water. Floor may be slippery; use care to avoid falling. Avoid release of this product into the environment to prevent contamination of soil, sewers, natural waterways and/or groundwater. See Section 12 for Ecological Information.

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## 7. HANDLING AND STORAGE

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### Handling and Storage:

Store in a cool, dry, well ventilated area, between 10°C and 49°C. Keep containers tightly closed when not in use and follow all recommended safety precautions when handling the material. Keep out of sun and away from heat or open flame. Keep away from incompatible materials. See Section 10 for incompatible materials.

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## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

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**Engineering Controls:** General ventilation expected to be satisfactory

### PERSONAL PROTECTION EQUIPMENT

**Respiratory:** Not normally required. If vapors, fumes, or dusts are present use a OSHA or NIOSH approved respirator, a fresh air breathing apparatus, or a self-contained breathing apparatus.

**Eyes and Face:** Chemical splash goggles or face shield/goggle combination

**Hands and Skin:** Chemical resistant rubber, neoprene latex or PVC

**Other Protective Equipment:** Eyewash station in area of use. Wear long sleeve shirt, long pants, and boots.

### EXPOSURE GUIDELINES

#### Exposure Limits:

COMPONENT	TLV
N.A.	

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Appearance and Odor:</b>	Colorless liquid with no odor		
<b>Odor Threshold:</b>	N.D.	<b>Vapor Pressure:</b>	17
<b>pH (undiluted):</b>	< 1.0	<b>Vapor Density:</b>	N.D.
<b>Freeze Point:</b>	< -10°C (14°F)	<b>Specific Gravity(@22°C):</b>	1.43 - 1.47
<b>Boiling Point:</b>	> 100°C (212°F)	<b>Solubility in Water:</b>	Complete
<b>Flash Point:</b>	None	<b>Partition Coefficient:</b>	N.D. (n-octanol/water)
		<b>Auto-Ignition Temperature:</b>	N.D.
<b>Evaporation Rate:</b>	Slow	<b>Decomposition Temperature:</b>	N.D.
<b>Flammability (solid, gas):</b>	No	<b>Viscosity:</b>	N.D.
<b>Flammable Limits in Air:</b>	LFL – N/A		
	UFL – N/A		

## 10. STABILITY AND REACTIVITY

**Reactivity:** Not normally reactive at normal temperatures and pressure.

**Chemical Stability:** Stable under normal conditions

**Possibility of Hazardous Reactions:** Will not occur under normal conditions.

**Conditions to Avoid:** Avoid excessive heat, sparks or open flames. Contact with aluminum may release hydrogen gas.

**Incompatible Materials:** Concentrated alkalis. May form explosive mixtures with strong oxidizing including chlorine and avoid mixing with metal powders.

**Hazardous Decomposition Products:** Thermal decomposition may release oxides of carbon, nitrogen and ammonia.

## 11. TOXICOLOGICAL INFORMATION

**Ingestion Testing:** Rat, LD50: 350 mg/kg

**Skin Testing:** Rabbit, LD50: > 2,000 mg/kg

**Inhalation Testing:** None established for this product.

### CHRONIC TOXICITY DATA

**Sensitization Testing:** None established for this product.

**Other Testing:** None established for this product.

**Routes of Exposure:** Eyes, Ingestion, Inhalation, Skin.

**Eye Contact:** May cause severe irritation or burns. Prolonged contact may cause irreversible damage and/or blindness.

**Skin Contact:** Prolonged contact may cause severe irritation, rash or burns. Severity is generally determined by concentration of solution and duration of contact.

**Inhalation:** Inhalation of vapor or mist can cause severe irritation of nose, throat, and lungs. May cause damage to the upper respiratory tract and lungs under severe conditions.

**Ingestion:** May be toxic. May cause severe irritation or burns of the mouth, throat, and internal tissues resulting in possible nausea and/or vomiting. Large amounts can result in acute toxic effects which may be fatal.

**Medical Conditions Aggravated by Exposure:** None known.

**Chronic Effects from Repeated Overexposure:** Other than short term effects, none established.

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**12. ECOLOGICAL INFORMATION**

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**Aquatic Toxicity Data:**

Invertebrate: Ceriodaphnia dubia, LC50/48hr: 99 mg/l

Fathead minnow, Pimephales promelas, LC50/96h: 66 mg/l

**Product Fate Data:** None established for this product.**Biodegradation Data:** None established for this product.

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**13. DISPOSAL CONSIDERATIONS**

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**Waste Disposal:** Dispose of in accordance with local, regional, national and international regulations.

Contact the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal: Triple rinse container (or equivalent) promptly after emptying and offer for reconditioning if appropriate. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal.

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**14. TRANSPORT INFORMATION**

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**US DEPARTMENT OF TRANSPORTATION (DOT) INFORMATION****UN/NA ID Number:** UN3265**Proper Shipping Name:** CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S (MONOCARBAMIDE DIHYDROGEN SULFATE)**Hazard Class:** 8**Packing Group:** PGII**VESSEL TRANSPORT (IMO/IMDG)****UN/NA ID Number:** UN3265**Proper Shipping Name:** CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S (MONOCARBAMIDE DIHYDROGEN SULFATE)**Hazard Class:** 8**Packing Group:** PGII**Marine Pollutant:** No

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**15. REGULATORY INFORMATION**

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**US FEDERAL REGULATIONS****TSCA:** All ingredients listed or exempt from listing.**CERCLA and/or SARA RQ:** No ingredients listed in this section.**SARA Section 302 Hazard Class:** No ingredients listed in this section.**SARA Section 311/312 Chemicals:**

Acute Health Hazard: Yes

Chronic Health Hazard: No

Fire Hazard: No

Sudden Release of Pressure Hazard: No

Reactive Hazard: No

**SARA Section 313 Chemicals:** No ingredients listed in this section.**STATE REGULATIONS**

This product does not contain any ingredients known to the State of California to cause cancer.

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**16. OTHER INFORMATION**

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**HAZARD RATING SUMMARY****Hazard Rating System:**

NFPA

**Health:**

3

**Flammability:**

0

**CODE TRANSLATION**

0 = Minimal Hazard

1 = Slight Hazard

Reactivity: 1  
Special:

2 = Moderate Hazard  
3 = Severe Hazard  
4 = Extreme Hazard

**Other Precautions:** This product has been designed for use in specific types of process water cleaning operations and should be used only in accordance with the instructions provided by the technical representative servicing the facility.

**SDS REVISION SUMMARY**

Revised Date	Revision Notes
8/9/2018	GHS Version 1.0: Supersedes: 11/12/15, revised ecological information.

**ABBREVIATION CODE SUMMARY**

**N.A.** – Not Applicable  
**N/A** – Not Available  
**N.D.** – Not Determined  
**N.E.** – None Established

*Disclaimer: The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given.*