


## SECTION 1: Identification

|                                         |                                                                                                                                |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>Product identifier</b>               |                                                                                                                                |
| Product name                            | Sulfuric Acid .12N                                                                                                             |
| Product number                          | R-0009; R-0009-PL                                                                                                              |
| <b>Recommended use and restrictions</b> | To be used in accordance with manufacturer instructions or under the direct guidance of the manufacturer.                      |
| <b>Manufacturer</b>                     | Taylor Technologies, Inc.<br>31 Loveton Circle<br>Sparks, MD 21152<br>Phone: (410) 472-4340<br>Emergency phone: (800) 837-8548 |

## SECTION 2: Hazard(s) identification

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>Physical hazards</b>                 | Corrosive to metals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Category 1  |
| <b>Health hazards</b>                   | Eye damage/irritation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Category 1  |
|                                         | Skin corrosion/irritation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Category 1C |
| <b>Environmental hazards</b>            | Not currently regulated by OSHA. For additional information, refer to section 12 of the SDS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |
| <b>Label elements</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |
| Hazard pictograms                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |
| Signal word                             | Danger                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |
| Hazard statements                       | May be corrosive to metals. Causes severe skin burns and eye damage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |             |
| Precautionary statements                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |
| Prevention                              | Keep only in original container. Do not breathe mists or vapors. Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection if contact is likely to occur.                                                                                                                                                                                                                                                                                                                                                 |             |
| Response                                | Absorb spillage to prevent material damage. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a physician or poison control center. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a physician or poison control center. |             |
| Storage                                 | Store in a corrosive-resistant container with a corrosive-resistant inner liner. Keep tightly capped. Store out of direct sunlight between 36°F–85°F. Store locked up.                                                                                                                                                                                                                                                                                                                                                                                         |             |
| Disposal                                | Dispose of contents/container in accordance with local/regional/national/international regulations.                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |
| <b>Hazards not otherwise classified</b> | Not applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |

## SECTION 3: Composition/information on ingredients

|                      |                                 |                   |              |
|----------------------|---------------------------------|-------------------|--------------|
| <b>Mixture</b>       |                                 |                   |              |
| <b>Chemical name</b> | <b>Common name and synonyms</b> | <b>CAS number</b> | <b>% w/w</b> |
| Water                | Dihydrogen oxide                | 7732-18-5         | 99–100       |
| Sulfuric acid        | Oil of vitriol                  | 7664-93-9         | 0.1–1        |

## SECTION 4: First-aid measures

|                   |                                                                                                                                                                                      |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>If inhaled</b> | Remove individual to fresh air. Seek medical advice/attention if breathing becomes difficult or if respiratory irritation develops. Give oxygen or artificial respiration if needed. |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**In case of skin contact**

Immediately flush skin with plenty of water for at least 20 minutes. If clothing comes in contact with the product, the clothing should be removed and laundered before reuse. Seek medical advice/attention if irritation develops. Chemical burns must be treated by a physician.

**In case of eye contact**

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

**If swallowed**

Call a physician or poison control center immediately. Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

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

Refer to section 2 and/or section 11 of the SDS for the most important known symptoms and effects.

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

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep person under observation. Symptoms may be delayed.

**General information**

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**SECTION 5: Firefighting measures****Extinguishing media**

|                                |                                                                                |
|--------------------------------|--------------------------------------------------------------------------------|
| Suitable extinguishing media   | Use extinguishing media appropriate for surrounding fire.                      |
| Unsuitable extinguishing media | Do not use a heavy water stream. Use of heavy stream of water may spread fire. |

**Specific hazards arising from the substance or mixture**

|                               |                                                  |
|-------------------------------|--------------------------------------------------|
| Fire hazard                   | Not flammable                                    |
| Explosion hazard              | Not explosive                                    |
| Reactivity                    | May be corrosive to metals                       |
| Hazardous combustion products | Sulfur oxides. Other irritating fumes and smoke. |

**Advice for firefighters**

|                                     |                                                                                               |
|-------------------------------------|-----------------------------------------------------------------------------------------------|
| Precautionary measures              | Exercise caution when fighting any chemical fire; hazardous fumes will be present.            |
| Firefighting equipment/instructions | Use water spray or fog for cooling exposed containers.                                        |
| Protection during firefighting      | Do not enter fire area without proper protective equipment, including respiratory protection. |
| Other information                   | Refer to section 9 of the SDS for flammability properties.                                    |

**SECTION 6: Accidental release measures****Personal precautions, protective equipment, and emergency procedures**

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.

**Environmental precautions**

Avoid discharge into drains, watercourses, or onto the ground.

**Methods and material for containment and cleaning up**

Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewers, basements, or confined areas. Following product recovery, flush area with water. Dilute acid with water and neutralize with dilute base. If not recoverable, dilute with water or flush to holding area and neutralize. Contaminated absorbent material may pose the same hazards as the spilled product. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

**Reference to other sections**

For exposure controls and personal protection, refer to section 8 of the SDS. For waste disposal, refer to section 13 of the SDS.

**SECTION 7: Handling and storage****Personal precautions, protective equipment, and emergency procedures**

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.

**Conditions for safe storage, including any incompatibilities**

Store in corrosive-resistant container with a corrosive-resistant inner liner. Keep tightly capped. Store out of direct sunlight between 36°F-85°F. Store locked up. Store away from incompatible materials (refer to section 10 of the SDS).

**SECTION 8: Exposure controls/personal protection****Occupational exposure limits****US ACGIH Threshold Limit Values**

| Components                    | Type | Value                                        |
|-------------------------------|------|----------------------------------------------|
| Sulfuric acid (CAS 7664-93-9) | TWA  | 0.2 mg/m <sup>3</sup> (thoracic particulate) |

**US NIOSH: Pocket Guide to Chemical Hazards**

| Components                    | Type | Value               |
|-------------------------------|------|---------------------|
| Sulfuric acid (CAS 7664-93-9) | TWA  | 1 mg/m <sup>3</sup> |

**US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components                    | Type | Value               |
|-------------------------------|------|---------------------|
| Sulfuric acid (CAS 7664-93-9) | TWA  | 1 mg/m <sup>3</sup> |

**Biological limit values**

No biological exposure limits noted for the ingredient(s)

**Exposure controls**

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

**Personal protective equipment**

Eye/face protection Wear appropriate chemical safety goggles if contact is likely to occur.  
 Skin protection Wear appropriate chemical-resistant gloves and clothing if contact is likely to occur.  
 Body protection Wear appropriate protective clothing.  
 Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties**

|                           |                   |
|---------------------------|-------------------|
| Physical state            | Liquid            |
| Form                      | Liquid            |
| Color                     | Clear, colorless  |
| Odor                      | Odorless          |
| Odor threshold            | Not applicable    |
| pH                        | 1.3               |
| Evaporation rate          | No data available |
| Melting point             | Not applicable    |
| Freezing point            | No data available |
| Boiling point             | 212°F (100°C)     |
| Flash point               | No data available |
| Specific gravity          | 1.00              |
| Auto-ignition temperature | Not applicable    |
| Decomposition temperature | No data available |
| Flammability (solid, gas) | Not applicable    |
| Upper Flammability Limit  | Not applicable    |
| Lower Flammability Limit  | Not applicable    |
| Vapor pressure            | 17 mm Hg          |
| Relative vapor density    | 0.6               |

|                                         |                            |
|-----------------------------------------|----------------------------|
| Solubility                              | Soluble in all proportions |
| Partition coefficient (n-octanol/water) | No data available          |
| Viscosity                               | No data available          |
| Explosive properties                    | Not applicable             |
| Oxidizing properties                    | Not applicable             |
| Percent volatile                        | 99.6%                      |

## SECTION 10: Stability and reactivity

|                                           |                                                                                          |
|-------------------------------------------|------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | May be corrosive to metals                                                               |
| <b>Chemical stability</b>                 | Stable under recommended handling and storage conditions (refer to section 7 of the SDS) |
| <b>Possibility of hazardous reactions</b> | No dangerous reaction known under conditions of normal use                               |
| <b>Conditions to avoid</b>                | Contact with incompatible materials. Do not use in areas without adequate ventilation.   |
| <b>Incompatible materials</b>             | Metal compounds, nitromethane, oxidizing agents, strong bases, sugars                    |
| <b>Hazardous decomposition products</b>   | No hazardous decomposition products under conditions of normal use                       |

## SECTION 11: Toxicological information

### Information on toxicological effects

|              |                                                |
|--------------|------------------------------------------------|
| Inhalation   | May cause irritation to the respiratory system |
| Skin contact | Causes severe skin burns                       |
| Eye contact  | Causes serious eye damage                      |
| Ingestion    | Causes digestive tract burns                   |

### Most important

#### symptoms/effects, acute and delayed

Direct skin contact may cause corrosive skin burns, deep ulcerations, and possibly permanent scarring.

Direct contact with concentrated solutions may be corrosive and may cause severe damage, including blindness. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of mists can cause respiratory irritation. Symptoms may include coughing, choking, and wheezing. Inhalation could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed.

May produce burns to the lips, oral cavity, upper airway, esophagus, and possibly the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations, bleeding.

### Acute toxicity

This product is not classified as an acute toxicity hazard. See below for product and individual ingredient acute toxicity data.

| Product                           | Species | Acute Toxicity Estimate (ATE) |
|-----------------------------------|---------|-------------------------------|
| 0.12N Sulfuric acid (CAS Mixture) |         |                               |
| <b>Acute</b>                      |         |                               |
| <i>Dermal</i>                     |         |                               |
| LD <sub>50</sub>                  | Rat     | No data available             |
| <i>Inhalation</i>                 |         |                               |
| LC <sub>50</sub>                  | Rat     | >20 mg/L                      |
| <i>Oral</i>                       |         |                               |
| LD <sub>50</sub>                  | Rat     | >5000 mg/kg                   |
| Components                        | Species | Acute Toxicity Data           |
| Sulfuric acid (CAS 7664-93-9)     |         |                               |
| <b>Acute</b>                      |         |                               |
| <i>Dermal</i>                     |         |                               |
| LD <sub>50</sub>                  | Rat     | No data available             |
| <i>Inhalation</i>                 |         |                               |
| LC <sub>50</sub>                  | Rat     | 0.375 mg/L                    |
| <i>Oral</i>                       |         |                               |
| LD <sub>50</sub>                  | Rat     | 2140 mg/kg                    |

|                                          |                           |
|------------------------------------------|---------------------------|
| <b>Skin corrosion/irritation</b>         | Causes severe skin burns  |
| <b>Serious eye damage/eye irritation</b> | Causes serious eye damage |
| <b>Respiratory sensitization</b>         | No data available         |
| <b>Skin sensitization</b>                | No data available         |
| <b>Germ cell mutagenicity</b>            | No data available         |

**Carcinogenicity**

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Not classifiable

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)**

Not regulated

**US National Toxicology Program (NTP) Report on Carcinogens**

Not regulated

|                                                           |                                                                              |
|-----------------------------------------------------------|------------------------------------------------------------------------------|
| <b>Reproductive toxicity</b>                              | This product is not expected to cause reproductive or developmental effects. |
| <b>Specific target organ toxicity (single exposure)</b>   | No data available                                                            |
| <b>Specific target organ toxicity (repeated exposure)</b> | No data available                                                            |
| <b>Aspiration hazard</b>                                  | No data available                                                            |

**SECTION 12: Ecological information**

|                                      |                                                                                    |
|--------------------------------------|------------------------------------------------------------------------------------|
| <b>Ecotoxicity</b>                   | This product is not classified as environmentally hazardous.                       |
| <b>Persistence and degradability</b> | No data available                                                                  |
| <b>Bioaccumulative potential</b>     | No data available                                                                  |
| <b>Mobility in soil</b>              | No data available                                                                  |
| <b>Other adverse effects</b>         | Large or frequent spills can have a harmful or damaging effect on the environment. |

**SECTION 13: Disposal considerations**

Collect and reclaim or dispose of in sealed containers at a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied. This material and its container must be disposed of in a safe manner. Dispose of contents/container in accordance with local/regional/national/international regulations.

**SECTION 14: Transport information**

**DOT**

|                                     |                                                                          |
|-------------------------------------|--------------------------------------------------------------------------|
| <b>UN number</b>                    | UN3264                                                                   |
| <b>UN proper shipping name</b>      | Corrosive liquid, acidic, inorganic, N.O.S. (Sulphuric acid)             |
| <b>Transport hazard class(es)</b>   |                                                                          |
| <b>Class</b>                        | 8                                                                        |
| <b>Subsidiary risk</b>              | Not listed                                                               |
| <b>Label(s)</b>                     | 8                                                                        |
| <b>Packing group</b>                | III                                                                      |
| <b>Special precautions for user</b> | Read safety instructions, SDS, and emergency procedures before handling. |
| <b>Special provisions</b>           | IB3, T7, TP1, TP28                                                       |
| <b>Packaging exceptions</b>         | 154                                                                      |
| <b>Packaging, non-bulk</b>          | 203                                                                      |
| <b>Packaging, bulk</b>              | 241                                                                      |

**IATA**

|                                   |                                                              |
|-----------------------------------|--------------------------------------------------------------|
| <b>UN number</b>                  | UN3264                                                       |
| <b>UN proper shipping name</b>    | Corrosive liquid, acidic, inorganic, N.O.S. (Sulphuric acid) |
| <b>Transport hazard class(es)</b> |                                                              |
| <b>Class</b>                      | 8                                                            |
| <b>Subsidiary risk</b>            | Not listed                                                   |
| <b>Packing group</b>              | III                                                          |

**Environmental hazards**

|                                     |                                                                          |
|-------------------------------------|--------------------------------------------------------------------------|
| <b>Marine pollutant</b>             | No                                                                       |
| <b>Special provisions</b>           | Not listed                                                               |
| <b>ERG code</b>                     | 8L                                                                       |
| <b>Special precautions for user</b> | Read safety instructions, SDS, and emergency procedures before handling. |
| <b>Other information</b>            |                                                                          |
| <b>Passenger and cargo aircraft</b> | Allowed                                                                  |
| <b>Cargo aircraft only</b>          | Allowed                                                                  |

**IMDG**

|                                                                                 |                                                                          |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>UN number</b>                                                                | UN3264                                                                   |
| <b>UN proper shipping name</b>                                                  | Corrosive liquid, acidic, inorganic, N.O.S. (Sulphuric acid)             |
| <b>Transport hazard class(es)</b>                                               |                                                                          |
| <b>Class</b>                                                                    | 8                                                                        |
| <b>Subsidiary risk</b>                                                          | Not listed                                                               |
| <b>Packing group</b>                                                            | III                                                                      |
| <b>Environmental hazards</b>                                                    |                                                                          |
| <b>Marine pollutant</b>                                                         | Not listed                                                               |
| <b>EmS</b>                                                                      | F-A, S-B                                                                 |
| <b>Special precautions for user</b>                                             | Read safety instructions, SDS, and emergency procedures before handling. |
| <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> | This substance/mixture is not intended to be transported in bulk.        |

**DOT****IATA; IMDG****SECTION 15: Regulatory information****US federal regulations****CERCLA Hazardous Substance (40 CFR 302.4)**

| <u>Chemical name</u> | <u>CAS number</u> | <u>Reportable Quantity</u> |
|----------------------|-------------------|----------------------------|
| Sulfuric acid        | 7664-93-9         | 1000 lbs                   |

**OSHA Hazard Communication Standard (29 CFR 1910.1200)**

| <u>Chemical name</u> | <u>CAS number</u> |
|----------------------|-------------------|
| Sulfuric acid        | 7664-93-9         |

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)**

Not regulated

**SARA 302 Extremely Hazardous Substance (40 CFR 355 Appendices A / B)**

| <u>Chemical name</u> | <u>CAS number</u> | <u>Reportable Quantity</u> |
|----------------------|-------------------|----------------------------|
| Sulfuric acid        | 7664-93-9         | 1000 lbs                   |

**SARA 304 Emergency Release Notification**

| <u>Chemical name</u> | <u>CAS number</u> | <u>Reportable Quantity</u> |
|----------------------|-------------------|----------------------------|
| Sulfuric acid        | 7664-93-9         | 1000 lbs                   |

**SARA 311/312 Hazardous Chemical**

| <u>Chemical name</u> | <u>CAS number</u> |
|----------------------|-------------------|
| Sulfuric acid        | 7664-93-9         |

**SARA 313 (TRI reporting)**

Not regulated

**TSCA Section 8(b) Chemical Inventory**

All components are on the U.S. EPA TSCA Inventory list.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)**

Not regulated

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated

**Safe Drinking Water Act (SDWA)**

Not regulated

**US state regulations****California Safe Drinking Water and Toxic Enforcement Act of 1986 (California Proposition 65)**

Not regulated

**Massachusetts Right-to-Know Act**

| <u>Chemical name</u> | <u>CAS number</u> |
|----------------------|-------------------|
| Sulfuric acid        | 7664-93-9         |

**New Jersey Worker and Community Right-to-Know Act**

| <u>Chemical name</u> | <u>CAS number</u> |
|----------------------|-------------------|
| Sulfuric acid        | 7664-93-9         |

**Pennsylvania Worker and Community Right-to-Know Act**

| <u>Chemical name</u> | <u>CAS number</u> |
|----------------------|-------------------|
| Sulfuric acid        | 7664-93-9         |

**Rhode Island Right-to-Know Act**

| <u>Chemical name</u> | <u>CAS number</u> |
|----------------------|-------------------|
| Sulfuric acid        | 7664-93-9         |

**SECTION 16: Other information****NFPA Rating**

|               |     |
|---------------|-----|
| Health hazard | 1   |
| Fire hazard   | 0   |
| Reactivity    | 1   |
| Specific      | N/A |

**Disclaimer**

The information in the Safety Data Sheet is offered for your consideration and guidance for safe handling, use, storage, transportation, disposal, and release of this product and is not considered a warranty or quality specification. Taylor Technologies, Inc., disclaims all expressed or implied warranties and assumes no responsibility for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

License granted to make unlimited paper copies for internal use only. This Safety Data Sheet may not be altered in any way without the expressed knowledge and permission of Taylor Technologies, Inc. The information contained in this sheet is based on lab experience and the most current data available.

**Issue date:**

May 2015

**Last revisions**

November 2017