



# SAFETY DATA SHEET

## 1. Identification

|                                                        |                                                                                                            |                       |  |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------|--|
| Product identifier                                     | MAGNESIUM SULFATE, HEPTAHYDRATE, REAGENT (ACS)                                                             |                       |  |
| Other means of identification                          |                                                                                                            |                       |  |
| Product code                                           | 725                                                                                                        |                       |  |
| Recommended use                                        | professional, scientific and technical activities: other professional, scientific and technical activities |                       |  |
| Recommended restrictions                               | None known.                                                                                                |                       |  |
| Manufacturer/Importer/Supplier/Distributor information |                                                                                                            |                       |  |
| Manufacturer                                           |                                                                                                            |                       |  |
| Company name                                           | GFS Chemicals, Inc.                                                                                        |                       |  |
| Address                                                | P.O. Box 245<br>Powell, OH 43065<br>United States                                                          |                       |  |
| Telephone                                              | Phone                                                                                                      | 740-881-5501          |  |
|                                                        | Toll Free                                                                                                  | 800-858-9682          |  |
|                                                        | Fax                                                                                                        | 740-881-5989          |  |
| Website                                                | www.gfschemicals.com                                                                                       |                       |  |
| E-mail                                                 | service@gfschemicals.com                                                                                   |                       |  |
| Emergency phone number                                 | Emergency Assistance                                                                                       | Chemtrec 800-424-9300 |  |

## 2. Hazard(s) identification

|                                                  |                                                                                                                                                                                                                                        |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Physical hazards</b>                          | Not classified.                                                                                                                                                                                                                        |
| <b>Health hazards</b>                            | Not classified.                                                                                                                                                                                                                        |
| <b>Environmental hazards</b>                     | Not classified.                                                                                                                                                                                                                        |
| <b>OSHA defined hazards</b>                      | Not classified.                                                                                                                                                                                                                        |
| <b>Label elements</b>                            |                                                                                                                                                                                                                                        |
| <b>Hazard symbol</b>                             | None.                                                                                                                                                                                                                                  |
| <b>Signal word</b>                               | None.                                                                                                                                                                                                                                  |
| <b>Hazard statement</b>                          | The substance does not meet the criteria for classification.                                                                                                                                                                           |
| <b>Precautionary statement</b>                   |                                                                                                                                                                                                                                        |
| <b>Prevention</b>                                | Observe good industrial hygiene practices. Wear protective gloves/protective clothing/eye protection/face protection.                                                                                                                  |
| <b>Response</b>                                  | Wash hands after handling. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| <b>Storage</b>                                   | Store away from incompatible materials. Store in a well-ventilated place. Keep container tightly closed.                                                                                                                               |
| <b>Disposal</b>                                  | Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.                                                   |
| <b>Hazard(s) not otherwise classified (HNOC)</b> | None known.                                                                                                                                                                                                                            |
| <b>Supplemental information</b>                  | None.                                                                                                                                                                                                                                  |

## 3. Composition/information on ingredients

| Chemical name                   | Common name and synonyms | CAS number | %   |
|---------------------------------|--------------------------|------------|-----|
| MAGNESIUM SULFATE, HEPTAHYDRATE |                          | 10034-99-8 | 100 |

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

|                   |                                                                                                                                                           |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b> | If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|

Material name: MAGNESIUM SULFATE, HEPTAHYDRATE, REAGENT (ACS)

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Version #: 01

Revision date: Issue date: April-30-2015

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|                                                                               |                                                                                                                  |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Skin contact</b>                                                           | Wash off with soap and water. Get medical attention if irritation develops and persists.                         |
| <b>Eye contact</b>                                                            | Rinse with water. Get medical attention if irritation develops and persists.                                     |
| <b>Ingestion</b>                                                              | Rinse mouth. Get medical attention if symptoms occur.                                                            |
| <b>Most important symptoms/effects, acute and delayed</b>                     | Direct contact with eyes may cause temporary irritation.                                                         |
| <b>Indication of immediate medical attention and special treatment needed</b> | Treat symptomatically.                                                                                           |
| <b>General information</b>                                                    | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

## 5. Fire-fighting measures

|                                                                      |                                                                                                                                                              |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Suitable extinguishing media</b>                                  | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ). Use any media suitable for the surrounding fires.                                   |
| <b>Unsuitable extinguishing media</b>                                | Do not use water jet as an extinguisher, as this will spread the fire.                                                                                       |
| <b>Specific hazards arising from the chemical</b>                    | None known.                                                                                                                                                  |
| <b>Special protective equipment and precautions for firefighters</b> | Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. |
| <b>Fire fighting equipment/instructions</b>                          | Use water spray to cool unopened containers.                                                                                                                 |
| <b>Specific methods</b>                                              | Use standard firefighting procedures and consider the hazards of other involved materials.                                                                   |
| <b>General fire hazards</b>                                          | No unusual fire or explosion hazards noted.                                                                                                                  |

## 6. Accidental release measures

|                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal precautions, protective equipment and emergency procedures</b> | Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Methods and materials for containment and cleaning up</b>               | This product is miscible in water. Should not be released into the environment. Stop the flow of material, if this is without risk. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid dust formation. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. |
| <b>Environmental precautions</b>                                           | Avoid discharge into drains, water courses or onto the ground.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## 7. Handling and storage

|                                                                     |                                                                                                                                                        |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Precautions for safe handling</b>                                | Observe good industrial hygiene practices.                                                                                                             |
| <b>Conditions for safe storage, including any incompatibilities</b> | Store in original tightly closed container. Keep container tightly closed and dry. Store away from incompatible materials (see Section 10 of the SDS). |

## 8. Exposure controls/personal protection

|                                                                              |                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Occupational exposure limits</b>                                          | No exposure limits noted for ingredient(s).                                                                                                                                                                                                                                                                                                                                                   |
| <b>Biological limit values</b>                                               | No biological exposure limits noted for the ingredient(s).                                                                                                                                                                                                                                                                                                                                    |
| <b>Appropriate engineering controls</b>                                      | 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. |
| <b>Individual protection measures, such as personal protective equipment</b> |                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Eye/face protection</b>                                                   | Wear safety glasses with side shields (or goggles).                                                                                                                                                                                                                                                                                                                                           |
| <b>Skin protection</b>                                                       |                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Hand protection</b>                                                       | Wear appropriate chemical resistant gloves.                                                                                                                                                                                                                                                                                                                                                   |
| <b>Other</b>                                                                 | Wear suitable protective clothing.                                                                                                                                                                                                                                                                                                                                                            |
| <b>Respiratory protection</b>                                                | In case of insufficient ventilation, wear suitable respiratory equipment.                                                                                                                                                                                                                                                                                                                     |
| <b>Thermal hazards</b>                                                       | Wear appropriate thermal protective clothing, when necessary.                                                                                                                                                                                                                                                                                                                                 |
| <b>General hygiene considerations</b>                                        | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.                                                                                                                                                                         |

## 9. Physical and chemical properties

|                                                     |                                      |
|-----------------------------------------------------|--------------------------------------|
| <b>Appearance</b>                                   | Crystals                             |
| <b>Physical state</b>                               | Solid.                               |
| <b>Form</b>                                         | Solid.                               |
| <b>Color</b>                                        | White.                               |
| <b>Odor</b>                                         | Odorless.                            |
| <b>Odor threshold</b>                               | Not available.                       |
| <b>pH</b>                                           | Not available.                       |
| <b>Melting point/freezing point</b>                 | Not available.                       |
| <b>Initial boiling point and boiling range</b>      | Not available.                       |
| <b>Flash point</b>                                  | Not available.                       |
| <b>Evaporation rate</b>                             | Not available.                       |
| <b>Flammability (solid, gas)</b>                    | Not available.                       |
| <b>Upper/lower flammability or explosive limits</b> |                                      |
| <b>Flammability limit - lower (%)</b>               | Not available.                       |
| <b>Flammability limit - upper (%)</b>               | Not available.                       |
| <b>Explosive limit - lower (%)</b>                  | Not available.                       |
| <b>Explosive limit - upper (%)</b>                  | Not available.                       |
| <b>Vapor pressure</b>                               | Not available.                       |
| <b>Vapor density</b>                                | Not available.                       |
| <b>Relative density</b>                             | Not available.                       |
| <b>Solubility(ies)</b>                              |                                      |
| <b>Solubility (water)</b>                           | Very soluble.                        |
| <b>Partition coefficient (n-octanol/water)</b>      | Not available.                       |
| <b>Auto-ignition temperature</b>                    | Not available.                       |
| <b>Decomposition temperature</b>                    | Not available.                       |
| <b>Viscosity</b>                                    | Not available.                       |
| <b>Other information</b>                            |                                      |
| <b>Density</b>                                      | 2.66 g/cm <sup>3</sup>               |
| <b>Molecular formula</b>                            | MgSO <sub>4</sub> ·7H <sub>2</sub> O |
| <b>Molecular weight</b>                             | 246.47                               |
| <b>pH in aqueous solution</b>                       | 5 - 8 (5% aqueous solution)          |
| <b>Specific gravity</b>                             | 2.66                                 |

## 10. Stability and reactivity

|                                           |                                                                                               |
|-------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| <b>Chemical stability</b>                 | No hazardous self-reactivity.                                                                 |
| <b>Possibility of hazardous reactions</b> | Hazardous polymerization does not occur.                                                      |
| <b>Conditions to avoid</b>                | None known. Contact with incompatible materials.                                              |
| <b>Incompatible materials</b>             | None known.                                                                                   |
| <b>Hazardous decomposition products</b>   | No hazardous decomposition products are known.                                                |

## 11. Toxicological information

### Information on likely routes of exposure

|                     |                                                          |
|---------------------|----------------------------------------------------------|
| <b>Inhalation</b>   | No adverse effects due to inhalation are expected.       |
| <b>Skin contact</b> | No adverse effects due to skin contact are expected.     |
| <b>Eye contact</b>  | Direct contact with eyes may cause temporary irritation. |

**Ingestion**

Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics**

Direct contact with eyes may cause temporary irritation.

**Information on toxicological effects****Acute toxicity**

| Product                                          | Species | Test Results |
|--------------------------------------------------|---------|--------------|
| MAGNESIUM SULFATE, HEPTAHYDRATE (CAS 10034-99-8) |         |              |
| <b>Acute</b>                                     |         |              |
| <i>Other</i>                                     |         |              |
| LD50                                             | Mouse   | 645 mg/kg    |
|                                                  | Rat     | 1200 mg/kg   |

\* Estimates for product may be based on additional component data not shown.

**Skin corrosion/irritation**

Prolonged skin contact may cause temporary irritation.

**Serious eye damage/eye irritation**

Dust may irritate the eyes and the respiratory system.

**Respiratory or skin sensitization****Respiratory sensitization**

Not available.

**Skin sensitization**

None known.

**Germ cell mutagenicity**

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

**Reproductive toxicity**

This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure**

Not classified.

**Specific target organ toxicity - repeated exposure**

Not classified.

**Aspiration hazard**

Not available.

**12. Ecological information****Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Product                                          | Species | Test Results                                                    |
|--------------------------------------------------|---------|-----------------------------------------------------------------|
| MAGNESIUM SULFATE, HEPTAHYDRATE (CAS 10034-99-8) |         |                                                                 |
| <b>Aquatic</b>                                   |         |                                                                 |
| Crustacea                                        | EC50    | Tubificid worm (Tubifex tubifex) 149.6 - 191.36 mg/l, 48 hours  |
| Fish                                             | LC50    | Fathead minnow (Pimephales promelas) 2610 - 3080 mg/l, 96 hours |

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability**

None known.

**Bioaccumulative potential**

No data available.

**Mobility in soil**

No data available.

**Other adverse effects**

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

**13. Disposal considerations****Disposal instructions**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

**Local disposal regulations**

Dispose in accordance with all applicable regulations.

**Hazardous waste code**

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

### DOT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

## 15. Regulatory information

### US federal regulations

All components are on the U.S. EPA TSCA Inventory List.  
This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

#### SARA 304 Emergency release notification

Not regulated.

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Hazard categories

Immediate Hazard - No  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

#### SARA 302 Extremely hazardous substance

Not listed.

#### SARA 311/312

No

#### Hazardous chemical

#### SARA 313 (TRI reporting)

Not regulated.

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

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.

#### Food and Drug Administration (FDA)

Total food additive  
Direct food additive  
GRAS food additive

### US state regulations

#### US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

#### US. Massachusetts RTK - Substance List

Not regulated.

#### US. New Jersey Worker and Community Right-to-Know Act

Not listed.

#### US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

#### US. Rhode Island RTK

Not regulated.

#### US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

## International Inventories

| Country(s) or region        | Inventory name                                                         | On inventory (yes/no)* |
|-----------------------------|------------------------------------------------------------------------|------------------------|
| Australia                   | Australian Inventory of Chemical Substances (AICS)                     | Yes                    |
| Canada                      | Domestic Substances List (DSL)                                         | Yes                    |
| Canada                      | Non-Domestic Substances List (NDSL)                                    | No                     |
| China                       | Inventory of Existing Chemical Substances in China (IECSC)             | Yes                    |
| Europe                      | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes                    |
| Europe                      | European List of Notified Chemical Substances (ELINCS)                 | No                     |
| Japan                       | Inventory of Existing and New Chemical Substances (ENCS)               | Yes                    |
| Korea                       | Existing Chemicals List (ECL)                                          | Yes                    |
| New Zealand                 | New Zealand Inventory                                                  | Yes                    |
| Philippines                 | Philippine Inventory of Chemicals and Chemical Substances (PICCS)      | Yes                    |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory                          | Yes                    |

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Issue date</b>           | April-30-2015                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Version #</b>            | 01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Disclaimer</b>           | GFS Chemicals cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. |
| <b>Revision Information</b> | Product and Company Identification: Alternate Trade Names<br>Composition / Information on Ingredients: Disclosure Overrides<br>Physical & Chemical Properties: Multiple Properties<br>Regulatory Information: United States                                                                                                                                                                                                                                                              |