

## SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

#### 1.1 Product identifier

**Product name** FERRIC SULPHATE SOLUTION  
**Synonyms** CHALLENGE FERRIC SULPHATE SOLUTION

#### 1.2 Uses and uses advised against

**Uses** CLARIFIER • FLOCCULATING AID • WASTE WATER TREATMENT

#### 1.3 Details of the supplier of the product

**Supplier name** CHALLENGE CHEMICALS AUST.  
**Address** 6 Butcher St, Kwinana Beach, WA, 6167, AUSTRALIA  
**Telephone** (08) 9419 5577  
**Email** [sales@challengechemicals.com.au](mailto:sales@challengechemicals.com.au)  
**Website** <http://www.challengechemicals.com.au>

#### 1.4 Emergency telephone numbers

**Emergency** 0414 586 164

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

##### Physical Hazards

Corrosive to Metals: Category 1

##### Health Hazards

Skin Corrosion/Irritation: Category 1B  
Serious Eye Damage / Eye Irritation: Category 1

##### Environmental Hazards

Not classified as an Environmental Hazard

#### 2.2 GHS Label elements

**Signal word** DANGER

##### Pictograms



##### Hazard statements

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.

##### Prevention statements

P234 Keep only in original packaging.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

## PRODUCT NAME FERRIC SULPHATE SOLUTION

### Response statements

|                    |  |
|--------------------|--|
| P301 + P330 + P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.   |
| P303 + P361 + P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.                              |
| P304 + P340        | IF INHALED: Remove person to fresh air and keep comfortable for breathing.   |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310               | Immediately call a POISON CENTRE or doctor/physician.  |
| P321               | Specific treatment is advised - see first aid instructions.  |
| P363               | Wash contaminated clothing before reuse.   |
| P390               | Absorb spillage to prevent material damage.  |

### Storage statements

|      |  |
|------|--|
| P405 | Store locked up.   |
| P406 | Store in corrosive resistant container with a resistant inner liner. |

### Disposal statements

|      |  |
|------|--|
| P501 | Dispose of contents/container in accordance with relevant regulations. |
|------|--|

### 2.3 Other hazards

No information provided.

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## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

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### 3.1 Substances / Mixtures

| Ingredient                | CAS Number    | EC Number     | Content   |
|---------------------------|---------------|---------------|-----------|
| IRON (III) SULPHATE       | 10028-22-5    | 233-072-9     | 40 to 45% |
| SULPHURIC ACID            | 7664-93-9     | 231-639-5     | <3%       |
| NON HAZARDOUS INGREDIENTS | Not Available | Not Available | Remainder |

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## 4. FIRST AID MEASURES

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### 4.1 Description of first aid measures

|                             |  |
|-----------------------------|--|
| <b>Eye</b>                  | If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.                 |
| <b>Inhalation</b>           | If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.  |
| <b>Skin</b>                 | If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor. |
| <b>Ingestion</b>            | For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.   |
| <b>First aid facilities</b> | Eye wash facilities and safety shower should be available.   |

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

See Section 11 for more detailed information on health effects and symptoms.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

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## 5. FIRE FIGHTING MEASURES

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### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve iron oxides when heated to decomposition.

### 5.3 Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

## PRODUCT NAME FERRIC SULPHATE SOLUTION

### 5.4 Hazchem code

2X  
2 Fine Water Spray.  
X Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.

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## 6. ACCIDENTAL RELEASE MEASURES

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

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with sodium carbonate or similar, collect and place in suitable containers for treatment and/or disposal. Clean spill site with sodium carbonate solution.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

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

Store in a secured, cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation and fire protection systems.

### 7.3 Specific end uses

No information provided.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

| Ingredient                  | Reference      | TWA |                   | STEL |                   |
|-----------------------------|----------------|-----|-------------------|------|-------------------|
|                             |                | ppm | mg/m <sup>3</sup> | ppm  | mg/m <sup>3</sup> |
| Iron salts, soluble (as Fe) | SWA [AUS]      | --  | 1                 | --   | --                |
| Sulphuric acid              | SWA [AUS]      | --  | 1                 | --   | 3                 |
| Sulphuric acid              | SWA [Proposed] | --  | 0.1               | --   | --                |

### Biological limits

No biological limit values have been entered for this product.

### 8.2 Exposure controls

#### Engineering controls

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

**PRODUCT NAME FERRIC SULPHATE SOLUTION**

**PPE**

|                    |   |
|--------------------|---|
| <b>Eye / Face</b>  | Wear splash-proof goggles.  |
| <b>Hands</b>       | Wear PVC or rubber gloves.  |
| <b>Body</b>        | Wear coveralls. When using large quantities or where heavy contamination is likely, wear a PVC apron and PVC boots. |
| <b>Respiratory</b> | Where an inhalation risk exists, wear a Type B (acid gas and vapours) respirator.                                   |



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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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**9.1 Information on basic physical and chemical properties**

|                                  |                                  |
|----------------------------------|----------------------------------|
| <b>Appearance</b>                | VISCOUS DARK RED TO BROWN LIQUID |
| <b>Odour</b>                     | ODOURLESS                        |
| <b>Flammability</b>              | NON FLAMMABLE                    |
| <b>Flash point</b>               | NOT RELEVANT                     |
| <b>Boiling point</b>             | 112°C                            |
| <b>Melting point</b>             | -18°C                            |
| <b>Evaporation rate</b>          | NOT AVAILABLE                    |
| <b>pH</b>                        | < 1                              |
| <b>Vapour density</b>            | NOT AVAILABLE                    |
| <b>Relative density</b>          | 1.5 to 1.7                       |
| <b>Solubility (water)</b>        | SOLUBLE                          |
| <b>Vapour pressure</b>           | NOT AVAILABLE                    |
| <b>Upper explosion limit</b>     | NOT RELEVANT                     |
| <b>Lower explosion limit</b>     | NOT RELEVANT                     |
| <b>Partition coefficient</b>     | NOT AVAILABLE                    |
| <b>Autoignition temperature</b>  | NOT AVAILABLE                    |
| <b>Decomposition temperature</b> | NOT AVAILABLE                    |
| <b>Viscosity</b>                 | NOT AVAILABLE                    |
| <b>Explosive properties</b>      | NOT AVAILABLE                    |
| <b>Oxidising properties</b>      | NOT AVAILABLE                    |
| <b>Odour threshold</b>           | NOT AVAILABLE                    |

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**10. STABILITY AND REACTIVITY**

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**10.1 Reactivity**

May be corrosive to metals.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization will not occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites), alkalis (e.g. sodium hydroxide) and some metals.

**10.6 Hazardous decomposition products**

May evolve iron oxides when heated to decomposition.

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**11. TOXICOLOGICAL INFORMATION**

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**11.1 Information on toxicological effects**

**PRODUCT NAME FERRIC SULPHATE SOLUTION**

**Acute toxicity** Based on available data, the classification criteria are not met.

**Information available for the ingredients:**

| Ingredient     | Oral LD50        | Dermal LD50 | Inhalation LC50   |
|----------------|------------------|-------------|---|
| SULPHURIC ACID | 2140 mg/kg (rat) | --          | 18 mg/m <sup>3</sup> (guinea pig);<br>510 mg/m <sup>3</sup> /2hrs (rat) |

|                                 |   |
|---------------------------------|---|
| <b>Skin</b>                     | Contact may result in irritation, redness, pain, rash, dermatitis and possible burns.   |
| <b>Eye</b>                      | Contact may result in irritation, lacrimation, pain, redness, corneal burns and possible serious eye damage.                  |
| <b>Sensitisation</b>            | Not classified as causing skin or respiratory sensitisation.  |
| <b>Mutagenicity</b>             | Not classified as a mutagen.  |
| <b>Carcinogenicity</b>          | Not classified as a carcinogen.   |
| <b>Reproductive</b>             | Not classified as a reproductive toxin.   |
| <b>STOT - single exposure</b>   | Over exposure may result in irritation of the nose and throat, coughing, nausea and inflammation with breathing difficulties. |
| <b>STOT - repeated exposure</b> | Not classified as causing organ damage from repeated exposure. Adverse effects are generally associated with single exposure. |
| <b>Aspiration</b>               | Not classified as causing aspiration.   |

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**12. ECOLOGICAL INFORMATION**

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**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

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**13. DISPOSAL CONSIDERATIONS**

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**13.1 Waste treatment methods**

**Waste disposal** For small amounts (as determined by risk assessment or similar): Wearing the protective equipment detailed above, neutralise to pH 6-8 by SLOW addition to a saturated sodium bicarbonate solution or similar basic solution. Dilute with excess water and flush to drain. Waste disposal should only be undertaken in a well ventilated area. For larger amounts: Dispose in accordance with local regulations.

**Legislation** Dispose of in accordance with relevant local legislation.

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**14. TRANSPORT INFORMATION**

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**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**



**PRODUCT NAME FERRIC SULPHATE SOLUTION**

|                                    | LAND TRANSPORT (ADG)  | SEA TRANSPORT (IMDG / IMO)  | AIR TRANSPORT (IATA / ICAO)   |
|------------------------------------|---|---|---|
| <b>14.1 UN Number</b>              | 3264  | 3264  | 3264  |
| <b>14.2 Proper Shipping Name</b>   | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains iron (III) sulfate) | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains iron (III) sulfate) | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains iron (III) sulfate) |
| <b>14.3 Transport hazard class</b> | 8   | 8   | 8   |
| <b>14.4 Packing Group</b>          | II  | II  | II  |

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

Hazchem code 2X  
EmS F-A, S-B

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

**Poison schedule** Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

**Inventory listings** **AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals)**  
All components are listed on AIIC, or are exempt.

**16. OTHER INFORMATION**

**Additional information** RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**PRODUCT NAME FERRIC SULPHATE SOLUTION**

**Abbreviations**

|                   |   |
|-------------------|---|
| ACGIH             | American Conference of Governmental Industrial Hygienists                                       |
| CAS #             | Chemical Abstract Service number - used to uniquely identify chemical compounds                 |
| CNS               | Central Nervous System  |
| EC No.            | EC No - European Community Number   |
| EMS               | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)                   |
| GHS               | Globally Harmonized System  |
| GTEPG             | Group Text Emergency Procedure Guide  |
| IARC              | International Agency for Research on Cancer   |
| LC50              | Lethal Concentration, 50% / Median Lethal Concentration   |
| LD50              | Lethal Dose, 50% / Median Lethal Dose   |
| mg/m <sup>3</sup> | Milligrams per Cubic Metre  |
| OEL               | Occupational Exposure Limit   |
| pH                | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm               | Parts Per Million   |
| STEL              | Short-Term Exposure Limit   |
| STOT-RE           | Specific target organ toxicity (repeated exposure)  |
| STOT-SE           | Specific target organ toxicity (single exposure)  |
| SUSMP             | Standard for the Uniform Scheduling of Medicines and Poisons                                    |
| SWA               | Safe Work Australia   |
| TLV               | Threshold Limit Value   |
| TWA               | Time Weighted Average   |

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

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