

1. Identification

Product identifier	Ferric Sulphate, 40-70% Solution		
Other means of identification	None		
Recommended use	Inorganic coagulant		
Recommended restrictions	None known.		
Manufacturer/Importer/Supplier/Distributor information			
Manufacturer			
Company name	PVS Benson		
Address	1012 Gore Road Freelton, ON L0R1K0 Canada		
Telephone	1-800-265-0014		
e-mail	pvsbensoninfo@pvschemicals.com		
Emergency phone number	24 hours/7 days:	1-519-821-0215	
Supplier	See above.		

2. Hazard identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity following single exposure	Category 3 narcotic effects
Environmental hazards	Not classified.	
Label elements		



Signal word	Danger		
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage. Harmful if swallowed. May cause drowsiness or dizziness.		
Precautionary statement			
Prevention	Keep only in original packaging. Do not breathe mist or vapour. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.		
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 POISON CENTER/doctor. Specific treatment (see information on this label). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.		
Storage	Store in a corrosion resistant container with a resistant inner liner. Store locked up. Store in a well-ventilated place. Keep container tightly closed.		
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.		
Other hazards	None known.		
Supplemental information	None		

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Ferric Sulphate		10028-22-5	40-70

4. First-aid measures

Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
Skin contact	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER/doctor. Wash contaminated clothing before reuse. Specific treatment (see information on this label).
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
Ingestion	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.
Most important symptoms/effects, acute and delayed	May cause drowsiness and dizziness. Headache. Nausea, vomiting. Abdominal pain. Diarrhoea. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Symptoms may be delayed.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Wear rubber gloves and chemical splash goggles. Keep out of reach of children.

5. Fire-fighting measures

Suitable extinguishing media	Treat for surrounding material.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Firefighters should wear a self-contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of sulphur.
Special protective equipment and precautions for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapour. 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 protection, see section 8.
Methods and materials for containment and cleaning up	Stop leak if you can do so without risk. Should not be released into the environment. Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use.
Environmental precautions	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not discharge into lakes, streams, ponds or public waters.

7. Handling and storage

Precautions for safe handling	DANGER -- CORROSIVE Use only with adequate ventilation. Do not breathe mist or vapour. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash thoroughly after handling. Keep container tightly closed. Use good industrial hygiene practices in handling this material.
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Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in a closed container away from incompatible materials. Keep only in the original container.

8. Exposure controls/Personal protection

Occupational exposure limits**US. ACGIH Threshold Limit Values**

Components	Type	Value
Ferric Sulphate (CAS 10028-22-5)	TWA	1 mg/m3

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Ferric Sulphate (CAS 10028-22-5)	TWA	1 mg/m3

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value
Ferric Sulphate (CAS 10028-22-5)	STEL	2 mg/m3
	TWA	1 mg/m3

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Ferric Sulphate (CAS 10028-22-5)	TWA	1 mg/m3

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Ferric Sulphate (CAS 10028-22-5)	TWA	1 mg/m3

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Ferric Sulphate (CAS 10028-22-5)	TWA	1 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH.

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.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection**Hand protection**

Rubber gloves. Confirm with a reputable supplier first.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. As required by employer code.

Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).

Thermal hazards

Not applicable.

General hygiene considerations

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. When using do not eat or drink.

9. Physical and chemical properties

Appearance	Viscous
Physical state	Liquid.
Form	Liquid
Colour	red/brown

Odour	Odourless
Odour threshold	Not available.
pH	< 2
Melting point/freezing point	-40 °C (-40 °F)
Initial boiling point and boiling range	105 - 110 °C (221 - 230 °F)
Flash point	Not applicable
Evaporation Rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	0.03 mmHg @20°C
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (Water)	Complete
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidising.
Specific gravity	1.47 - 1.55

10. Stability and reactivity

Reactivity	Reacts violently with strong alkaline substances. This product may react with reducing agents. May be corrosive to metals. Reacts violently with alkaline material. This product may react with strong oxidizing agents.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Do not mix with other chemicals. Avoid contact with oxidisers or reducing agents.
Incompatible materials	Bases. Strong oxidizing agents. Reducing agents. Metals.
Hazardous decomposition products	May include and are not limited to: Oxides of sulphur.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause drowsiness and dizziness. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed. May cause stomach distress, nausea or vomiting.

Symptoms related to the physical, chemical and toxicological characteristics May cause drowsiness and dizziness. Headache. Nausea, vomiting. Abdominal pain. Diarrhoea. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity	In high concentrations, vapours are anaesthetic and may cause headache, fatigue, dizziness and central nervous system effects. Causes burns. Harmful if swallowed. Narcotic effects.	
Components	Species	Test results
Ferric Sulphate (CAS 10028-22-5)		
Acute		
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	500 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Exposure minutes	Not available.	
Erythema value	Not available.	
Oedema value	Not available.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Corneal opacity value	Not available.	
Iris lesion value	Not available.	
Conjunctival reddening value	Not available.	
Conjunctival oedema value	Not available.	
Recover days	Not available.	
Respiratory or skin sensitisation		
Canada - Alberta OELs: Irritant		
Ferric Sulphate (CAS 10028-22-5)		Irritant
Respiratory sensitisation	Not a respiratory sensitizer.	
Skin sensitisation	This product is not expected to cause skin sensitisation.	
Germ cell mutagenicity	Non-hazardous by WHMIS criteria.	
Carcinogenicity	Non-hazardous by WHMIS criteria.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful. Chronic exposure to ferric sulphate may cause liver effects. Repeated high exposure to ferric sulphate could cause too much iron to build up within the body. Symptoms of this may include and are not limited to upset stomach, nausea, constipation and black bowel movements.	
Further information	Not available.	

12. Ecological information

Ecotoxicity	Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. See below	
Ecotoxicological data		
Components	Species	Test results
Ferric Sulphate (CAS 10028-22-5)		
Aquatic		
Fish	LC50	Western mosquitofish (<i>Gambusia affinis</i>) 37.2 mg/L, 96 hours
Persistence and degradability	No data is available on the degradability of this product.	
Bioaccumulative potential	No data available.	
Mobility in soil	No data available.	
Mobility in general	Not 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. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations. Review federal, provincial, and local government requirements prior to disposal.
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	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

General Canada: TDG Proof of Classification: In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue. If applicable, the technical name and the classification of the product will appear below.

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number	UN3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Technical name	Ferric Sulphate
Hazard class	8
Packing group	III
Special provisions	16

TDG



15. Regulatory information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS status Controlled

International regulations

Inventory Status

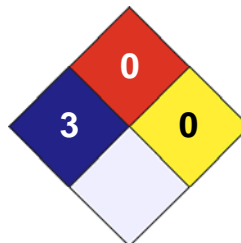
Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

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

16. Other information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/ 3
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X

**Issue date**

23-September-2016

Revision date

23-September-2016

Version #

01

Other information

For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

Prepared by

Dell Tech Laboratories Ltd. Phone: (519) 858-5021