UN GHS REVISION 7

Safety Data Sheet
Nuclear Fast Red

Version 1.0, Date of issue: 2026-08-13

SECTION 1: Identification

1.1 GHS Product identifier

Product name	Nuclear Fast Red
Product number	NFR-500M
Brand	Hurstchem

1.3 Recommended use of the chemical and restrictions on use

Laboratory Reagent

1.4 Supplier's details

Name	Hurst Scientific
Address	2 Transit Place, 6112 Forrestdale WA, Australia
Telephone	1300 778 068
email	sales@hurstscientific.com.au

1.5 Emergency phone number

Australian Poisons Information Centre 13 11 26

Australian Emergency Services 000

SECTION 2: Hazard identification

General hazard statement

Not classified as a Hazardous substance according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

Classified as NON-Dangerous goods according to the ADG Code for the Transport of Dangerous Goods by Road and Rail (7th Edition).

2.1 Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

Not classified as hazardous under the WHS Regulations (UN GHS revision 7).

2.2 GHS label elements, including precautionary statements

Pictograms	Not applicable
Signal word	Not applicable

Hazard statement(s)

None.

Precautionary statement(s)

None.

2.3 Other hazards

No information available on PBT / vPvB status or endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Component	Concentration
Aluminium sulfate hexadecahydrate (CAS: 16828-11-8)	**5%**
CLASSIFICATIONS: Serious Eye Damage/Irritation, Cat. 2A. **HAZARDS:** H319 - Causes serious eye irritation.	
Nuclear Fast Red (CAS: 6409-77-4)	**1%**
CLASSIFICATIONS: Skin Corrosion/Irritation, Cat. 2; Serious Eye Damage/Irritation, Cat. 2A; STOT – Single Exposure (respiratory irritation), Cat. 3. **HAZARDS:** H315 - Causes skin irritation; H319 - Causes serious eye irritation; H335 - May cause respiratory irritation.	
Water (CAS: 7732-18-5)	**Remainder**
Thymol (CAS: 89-83-8)	**0.1%**
CLASSIFICATIONS: Acute Toxicity (Oral), Cat. 4; Skin Corrosion/Irritation, Cat. 1B; Hazardous to the Aquatic Environment (Chronic), Cat. 2. **HAZARDS:** H302 - Harmful if swallowed; H314 - Causes severe skin burns and eye damage; H411 - Toxic to aquatic life with long lasting effects.	

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

Eye contact

Flush eyes with copious amounts of water for at least 15 minutes. If irritation develops or persists, seek medical attention.

Skin contact

Remove contaminated clothing and wash affected area with soap and water thoroughly. If irritation develops, seek medical attention.

Inhalation

Evacuate to fresh air immediately. If unconscious, place in recovery position and provide artificial respiration if breathing ceases. Seek medical attention.

Ingestion

DO NOT induce vomiting. Wash mouth out with copious amounts of water and seek medical attention.

First-aid facilities

Eye wash station, safety shower and First Aid kit.

4.2 Most important symptoms and effects, both acute and delayed

The most important symptoms and effects are described in Section 2 (hazard statements) and Section 11 (toxicological information).

4.3 Indication of immediate medical attention and special treatment needed

Treat symptomatically. For advice, contact the Poisons Information Centre (Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use an extinguishing medium suitable for the surrounding fire and other material involved. Water spray, dry chemical powder, carbon dioxide or foam.

5.2 Specific hazards arising from the chemical

Combustion may produce toxic and irritating gases.

5.3 Special protective actions for fire-fighters

Fire fighters should wear self-contained breathing apparatus (SCBA) operated in positive-pressure mode and full protective clothing. Fight the fire from a safe location.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid contact with skin and eyes. Wear suitable protective equipment (see Section 8). Evacuate non-essential personnel from the area.

6.2 Environmental precautions

Prevent the spill from entering drains, sewers and waterways. In the event of a major spill, contain the material and notify the relevant authorities.

6.3 Methods and materials for containment and cleaning up

Contain the spill and prevent entry into drains, sewers and waterways. Absorb with inert absorbent material (e.g. sand, vermiculite or earth) and transfer to a suitable, labelled container for disposal. Rinse the affected area with water. Dispose of in accordance with Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area. Keep containers tightly closed and upright when not in use. Store away from incompatible materials (see Section 10). Inspect containers regularly for damage or leaks.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Aluminium sulfate hexadecahydrate (CAS: 16828-11-8)
AU/SWA (AU): TWA: 2 mg/m³ (as Al)

Nuclear Fast Red (CAS: 6409-77-4)
AU/SWA (AU): No occupational exposure limit established.

Water (CAS: 7732-18-5)
AU/SWA (AU): No occupational exposure limit established.

Thymol (CAS: 89-83-8)
AU/SWA (AU): No occupational exposure limit established.

8.2 Appropriate engineering controls

Ensure an adequate ventilation or exhaust system is in place.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standard AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand protection

Use occupational protective gloves complying with AS 2161 (Selection, Use and Maintenance).

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapour/mist filter should be used. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Liquid
Appearance	Red
Colour	No data available
Odour	Odourless
Odour threshold	No data available
Melting point/freezing point	< 0 °C
Boiling point or initial boiling point and boiling range	100 °C
Flammability	Non-flammable
Lower and upper explosion limit/flammability limit	No data available
Flash point	No data available
Explosive properties	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Oxidising properties	No data available
pH	No data available
Kinematic viscosity	No data available
Solubility	Water soluble
Partition coefficient n-octanol/water (log value)	No data available
Vapour pressure	23 hPa @ 20 °C
Evaporation rate	No data available
Density and/or relative density	No data available
Relative vapour density	No data available
Particle characteristics	No data available
Supplemental information regarding physical hazard classes	No data available
Further safety characteristics (supplemental)	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Non-reactive under recommended conditions for use and storage.

10.2 Chemical stability

Stable under recommended conditions for use and storage.

10.3 Possibility of hazardous reactions

Polymerisation will not occur.

10.4 Conditions to avoid

High temperatures and incompatibles.

10.5 Incompatible materials

Oxidisers, strong alkalis and acids.

10.6 Hazardous decomposition products

Toxic gases may evolve.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
980 mg/kg (rat, LD50 oral) (Thymol); LD50 Rat dermal >2000 mg/kg (Thymol)

Skin corrosion/irritation
Not expected to be a skin irritant.

Serious eye damage/irritation
Not expected to be an eye irritant.

Respiratory or skin sensitisation
Not expected to be a respiratory or skin sensitiser.

Germ cell mutagenicity
Not considered to be a mutagenic hazard.

Carcinogenicity
Not considered to be a carcinogenic hazard.

Reproductive toxicity
Not considered to be toxic to reproduction.

Specific target organ toxicity (STOT) - single exposure
Not expected to cause toxicity to a specific target organ.

Specific target organ toxicity (STOT) - repeated exposure
Not expected to cause toxicity to a specific target organ through repeated exposure.

Aspiration hazard
Not expected to be an aspiration hazard.

SECTION 12: Ecological information

Toxicity
LC50; Species: Daphnia magna (Water Flea) age 1-2 instar larva; Conditions: freshwater, static, 20 °C, pH 6.5-8.5; Concentration: 3200 µg/L for 96 hr; LC50; Species: Gammarus fasciatus (Scud) juvenile; Conditions: freshwater, static, 20 °C, pH 6.5-8.5; Concentration: 3200 µg/L for 96 hr; LC50; Species: Pimephales promelas (Fathead Minnow) juvenile; Conditions: freshwater, static, 20 °C, pH 6.5-8.5; Concentration: 3200 µg/L for 96 hr (Thymol)

Persistence and degradability
AEROBIC: In aerobic degradation tests using river water from the Tamagawa River in Japan as the inoculum, thymol exhibited degradation of about 50% after 8 days of incubation. In a batch system using an adapted activated sludge inoculum, thymol was found to be readily biodegradable with a 94.8% degradation and degradation rate of 15.6 mg COD/g-hr. Laboratory tests using chernozem soil observed a thymol degradation of 100% in 3 days of incubation. Using bacteria isolated from soil, compost river mud and sediment from a petroleum waste lagoon, an initial concentration of 150 ppm thymol was degraded by 95% in 3-6 days. Thymol, present at 100 mg/L, reached 0% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test

Bioaccumulative potential
Not expected to bio-accumulate

Mobility in soil
No data available

Results of PBT and vPvB assessment
No data available

Endocrine disrupting properties
No data available

Other adverse effects
No data available

SECTION 13: Disposal considerations

Product disposal

Dispose of in accordance with local authority guidelines.

Packaging disposal

Dispose of in accordance with local authority guidelines.

Waste treatment

Dispose of in accordance with local authority guidelines.

Sewage disposal

Do not contaminate drains and waterways.

Other disposal recommendations

Nil.

SECTION 14: Transport information

ADG (Australian Dangerous Goods Code, 7th Edition)

Not classified as dangerous goods according to the ADG Code for the Transport of Dangerous Goods by Road and Rail (7th Edition).

IMDG (International Maritime Dangerous Goods Code)

Not classified as dangerous goods according to the IMDG Code.

IATA (International Air Transport Association Dangerous Goods Regulations)

Not classified as dangerous goods according to the IATA Dangerous Goods Regulations.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Aluminium sulfate hexadecahydrate (CAS: 16828-11-8)

Australia SUSMP — Poison Schedule: Not Scheduled (NS)

Nuclear Fast Red (CAS: 6409-77-4)

Australia SUSMP — Poison Schedule: Not Scheduled (NS)

Water (CAS: 7732-18-5)

Australia SUSMP — Poison Schedule: Not Scheduled (NS)

Thymol (CAS: 89-83-8)

Australia SUSMP — Poison Schedule: Not Scheduled (NS)

15.2 Chemical safety assessment

No chemical safety assessment has been carried out for this product.

SECTION 16: Other information

16.1 Further information/disclaimer

References

1. Safe Work Australia, Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, (June 2023).
2. Safe Work Australia, National Code of Practice for the Labelling of Workplace Hazardous Chemicals (2015).
3. Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants (2013).
4. National Transport Commission Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code), Volume 1, Edition 7.9 (2023).
5. Standards Australia, Dangerous Goods Initial Emergency Response Guide: Australian Handbook (SAA/SNZ HB76); Homebush (2004).

16.2 Preparation information

This SDS is prepared in accordance with the Safe Work Australia, Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice, (June 2023). The information contained within is believed to be accurate at the date of preparation/review. Hurst Scientific makes no claims of the accuracy or completeness of the information and excludes all liability for any loss or damage related to the supply or use of the information in this safety data sheet. It is recommended the user make their own determinations as to the suitability of the information provided to the application in which the product is to be used. Copyright © 2026 Hurst Scientific