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SECTION 1: Identification of the substance/mixture and of the company/undertaking
1.1 Product Identifiers

Product name : Manganese Standard Solution
Product number : R-300-20STMN-01, R-100-51STMN-01, R-100-51STMN-500, R-100-51STMN-250
Substance name : Manganese (Mn) Standard, 20ppm, 1ppm, 500ppb, and 250ppb
REACH reg no. : This product is exempt from registration, insufficient annual volume.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Reagent for analysis

1.3 Details of the supplier of the safety data sheet

Company : Modern Water Monitoring Limited
: Units 15-17 Cambridge Science Park
: Cambridge, CB4 0FQ
: UK
Email : info@modernwater.co.uk

1.4 Emergency telephone number

+44 (0) 1483 696030

SECTION 2: Hazards identification
2.1 Classification of the substance or mixture**Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Skin irritation (Category 2)

Eye irritation (Category 2)

2.2 Label elements

Hazard pictogram



Signal Word: Warning

Hazard statements:

H320	Causes eye irritation
H315	Causes skin irritation

Precautionary statements:

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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2.3 Other hazards : Not known



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SECTION 3: Composition/information on ingredients

3.1 Substance : Not relevant, see 3.2 Mixtures

3.2 Mixtures

Hazardous ingredients classification according to Regulation (EC) No. 1272/2008 CLP

Substance name	Concentration	CAS No	EC No
Nitric acid	2-3%	7697-37-2	231-714-2
H315 – causes skin irritation			
H319 – causes serious eye irritation			

SECTION 4: First Aid measures

4.1 Description of first aid measure

General advice: When in doubt or if symptoms observed, get medical advice. Show this safety data sheet to the doctor in attendance.

After Inhalation: Remove casualty to fresh air and keep warm. If breathing difficult or respiratory tract irritation get medical assistance. If not breathing, give artificial respiration and get urgent medical assistance.

In case of skin contact: Remove contaminated clothing. Wash off with soap and plenty of water. Get medical assistance.

After eye contact: Rinse thoroughly with plenty of water for at least 15 minutes. Remove contact lenses. Get urgent medical assistance.

In case of ingestion: If accidentally swallowed rinse mouth with plenty of water (only if person is conscious). Do not induce vomiting. Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

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SECTION 5: Fire-fighting measures.

- 5.1 Extinguishing media:**
Suitable extinguishing media
 Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media
 No restriction
- 5.2 Special hazards arising from the substance or mixture**
 Possible generation of Nitrogen oxide (NO_x) fumes
- 5.3 Advice for firefighters**
 Wear self-contained breathing apparatus.
- 5.4 Additional information**
 Do not let run-off from fire-fighting to enter drains or water courses.

SECTION 6: Accidental release measures.

- 6.1 Personal precautions, protective equipment and emergency procedures**
 Use personal protective equipment (see section 8). Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
- 6.2 Environmental precautions**
 Do not let product enter drains or surface water. Spills are to be contained. Discharge into environment must be avoided.
- 6.3 Methods and materials for containment and cleaning up**
 Soak up with inert absorbent material. Keep in a suitable closed container for disposal. Dispose correctly, referring to local regulations.
- 6.4 References to other sections**
 For disposal see section 13.

SECTION 7: Handling and storage.

- 7.1 Precautions for safe handling**
 Avoid exposure to skin and eyes.
- 7.2 Conditions for safe storage, including and incompatibilities**
 Store in a cool place, below 25°C. Keep contained upright and the cap tightly closed.
- 7.3 Specific end use(s)**
 Apart from uses specified in section 1.2, no other specific uses.



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SECTION 8: Exposure controls/personal protection.

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No	Value type	Limit value	
Nitric acid	7697-37-2	STEL	1ppm (2.6mg/m3)	EU and UK EH40 WEL

8.2 Exposure controls:

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at end of workday.

Personal protective equipment

Wear suitable protective clothing

Eye/face protection

Safety glasses with side-shields conforming to EN166 or equivalent standard.

Skin protection

Handle with gloves (PVC or nitrile)

SECTION 9: Physical and chemical properties.

9.1 Information on basic physical and chemical properties

Appearance	Clear colourless Liquid
Odour	none
Odour threshold	no data available
pH	1 (approx.)
Melting point/range (°C)	no data available
Boiling point (°C):	100 (approx.)
Flash point	not flammable
Evaporation rate	no data available
Flammability (solid/gas)	not applicable
Upper/lower flammability rates	not flammable
Vapour pressure (mmHg at 20°C)	25 (approx.)
Vapour density	no data available
Relative density	1.0 (approx.)
Water solubility	completely miscible
Partition coefficient: n-octane/water	no data available
Auto ignition temperature	no data available
Decomposition temperature	no data available
Viscosity	no data available
Explosive properties	not applicable
Oxidising properties	no data available



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9.2 Other data

Corrosion May be corrosive to metals

SECTION 10: Stability and reactivity.

10.1 Reactivity

Mildly reactive to bases.

10.2 Chemical stability

This product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

No data available.

10.5 Incompatible materials

Strong bases.

10.6 Hazardous decomposition products

No data available

SECTION 11: Toxicological information.

11.1 Information on toxicological effects

Acute toxicity

No data available

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes eye irritation

Respiration or skin sensitisation

Not sensitising

Germ cell mutagenicity

No indication of human germ cell mutagenicity exist


Carcinogenicity

No indication of human carcinogenicity exist

Reproductive toxicity

No indication of human reproductive toxicity exist

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Specific target organ exposure – single exposure

No data available

Specific target organ exposure – repeated exposure

No data available

Aspiration hazard

Not applicable

Other adverse effects

No data available

SECTION 12: Ecological information.**12.1 Toxicity**

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

None

SECTION 13: Disposal considerations.**13.1 Waste treatment methods:****Product**

Dispose in accordance to local regulations, consult the local waste disposal expert.

Contaminated packaging

Dispose in accordance to local regulations, the same way as the product itself.



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SECTION 14: Transport information.

Non – Hazardous for air, road and sea transport.

Land transport (ADR/RID)

14.1	UN number	Not applicable
14.2	UN proper shipping name	Not applicable
14.3	Transport hazard	Not applicable
14.4	Packaging group	Not applicable
14.5	Environmental hazards	Not applicable
14.6	Special precaution for user	Not applicable

Air transport (IATA)

14.1	UN number	Not applicable
14.2	UN proper shipping name	Not applicable
14.3	Transport hazard	Not applicable
14.4	Packaging group	Not applicable
14.5	Environmental hazards	Not applicable
14.6	Special precaution for user	Not applicable

SEA transport (IMDG)

14.1	UN number	Not applicable
14.2	UN proper shipping name	Not applicable
14.3	Transport hazard	Not applicable
14.4	Packaging group	Not applicable
14.5	Environmental hazards	Not applicable
14.6	Special precaution for user	Not applicable

SECTION 15: Regulatory information.


15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture

None applicable

15.2 Chemical Safety Assessment

No data available

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SECTION 6: Other information.

Abbreviations and acronyms

ADR – European Agreement Concerning the International Carriage of Dangerous Goods by Road

IATA – International Air Transportation Association

IMDG – international Maritime Code of Dangerous Goods

Mn - Manganese

STEL – Short term exposure limit

TWA – Time Weighted Average

WEL – Workplace Exposure Limit

Symbol, R and S phrases for this mixture

Symbol	Xi- Irritant	
R-phrase(s)	R36/38	Irritating to eyes and skin
S-phrase(s)	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

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