Issue: 11/19/2008

NO₃ TestSet Reagens 1 Updated: First edition

Page 1 of 5

1. Identification of the Preparation and of the Company

Identification of the Preparation:

NO3 TestSet Reagens 1

Use of the Preparation:

Measurement of the nitrate content of water

Company:

JBL GmbH & Co. KG, Dieselstr. 3, D-67141 Neuhofen, telephone: +49 6236 4180 0 Department of MSDS: info@chemieberatung.com

Emergency Telephone:

+49 6236 4180 0

2. Hazards Identification

This preparation reacts with water by formation of extremely flammable gases. The product is irritating to eyes, respiratory system and skin. It may cause sensitisation by skin contact. Released product is toxic to aquatic organisms, it may cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Hazardous Ingredients:

EINECS-No.	CAS-No.	Name according to EC Directives	Content Unit	Classification	R-Phrases
231-175-3	7440-66-6	Zinc powder (stabilized)	10 - 20 %	Ν	50-53
204-482-5	121-57-3	Sulfanilic acid	> 30 %	Xi	36/38 43
201-766-0	87-69-4	L(+)-Tartaric acid	> 30 %	Xi	36/37/38

The text of the R-phrases is in section 16.

4. First Aid Measures

Inhalation:

Take care of fresh air, obtain medical advice.

Skin Contact:

Wash off the product with plenty of water using soap, in case of indisposition obtain medical advice.

Eye Contact:

Spreading eyelids rinse the eyes thoroughly with running water, see an eye specialist.

Ingestion:

Let rinse out the mouth and let drink plenty of water, do not allow to vomit, take care of calming effect on the person and protect the person against heat loss, call a physician.

5. Fire-fighting Measures

Suitable Extinguishing Media:

Special powder for metal fire, dry sand.

Unsuitable Extinguishing Media:

Water, foam, CO₂.

Decomposition Products:

Thermal decomposition to carbon monoxide, fog of zinc oxide and organic cracked products.

Special Protective Equipment:

Tightly closing fireproof clothing and oxygen apparatus.

6. Accidental Release Measures

Person-related Precautionary Measures:

See section 8 "Exposures Controls / Personal Protection".

Environmental Precautions and Methods for Cleaning up:

Do not empty into waters. Collect with inert material (sand, common salt).

Further Information:

The product forms hydrogen in the presence of water - danger of explosion.

7. Handling and Storage

Handling:

General handling precautions:

Keep container tightly closed, avoid formation of dust if used.

Protection from fire and explosion:

Handle endangered containers in the presence of a dry inert gas (argon, nitrogen).

Storage:

Regulations of storage:

Store containers cool and tightly closed.

Incompatible materials:

Keep away from alkalis, acids, and products containing alcohols.

Storage class according to the VCI (Association of the German Chemical Industry):

LGK 4.3

8. Exposure Control / Personal Protection

Additional Information for the Formation of Technical Facilities:

No further information available, see section 7 "Handling and Storage".

Exposure Limit Values:

NO₃ TestSet Reagens 1 Updated: First edition

Page 3 of 5

Personal Protective Equipment:

General Measures for Protection and Hygiene:

Remove contaminated clothing immediately, avoid contact with skin and eyes. When using do not eat, drink, or smoke. Do not breathe fume and dust.

Breathing Protection:	In case of formation of dust in small, insufficiently ventilated areas put on a full mask with particle filter P3 (EN 143).
Hand Protection:	Put on protective gloves in accordance with EN 374 consisting of rubber or plastics.
Eye Protection:	Put on tightly fitting protective goggles.
Personal Protection:	Use protective clothing of plastics or rubber.

9. Physical and Chemical Properties

Appearance:

State: solid	Colour: white to slightly grey	Odour: insignificant odour
Data of Safety:		

Melting Point / Melting Range: Boiling Point / Boiling Range: Flash Point:		Not available. Not applicable. Not available.
pH-Value ($g/I H_2O$):	(T = 20 ℃)	Not available (chemical reaction).
Flammability: Ignition Temperature: Auto Flammability: Oxidising Properties: Explosive Properties: Explosion Limits:	lower: upper:	Extremely flammable in the presence of water. Not available. Not applicable. Not applicable. For dust-air mixtures. Not available. Not available.

Not available.

Not applicable. Not applicable. Not applicable. Not available. Not available. Not applicable. Not applicable.

Soluble by formation of hydrogen.

Further Information:

Density:	(T = 20 ℃)
Water Solubility:	(T = 20 °C)
Vapour Pressure:	(T = 20 ℃)
Vapour Density (air = 1):	
Partition Coefficient (n-octanol / w	ater):
Viscosity:	(T = 20 ℃)
Separation of Solvents:	
Content of Solvents:	
Evaporation Number:	

10. Stability and Reactivity

Conditions to Avoid:

See section 7 "Handling and Storage".

Materials to Avoid:

Water, strong oxidising agents, concentrated mineral acids, and alkalis.

Hazardous Decomposition Products:

In case of fire, see section 5.

Further Information:

Exothermic reaction with water, with concentrated acids and alkalis to hydrogen.

Issue: 11/19/2008

11. Toxicological Information

Acute Toxicity:

No data available.

Sensitisation:

No data available.

Empirical Data on Effects on Humans:

No data available.

Other Information on Health Effects:

No data available.

12. Ecological Information

Persistence in the Environment:

No data available.

Bioaccumulation:

No data available.

Ecotoxical Effects:

No data available.

Further Ecological Data:

No data available.

13. Disposable Considerations

Residues and contaminated packaging are special waste. For disposing ask your local authority.

Waste Classification according to EC Regulations (2000/532/EC):

07 07 99 wastes not otherwise specified

14. Transport Information

Land Transport ADR/RID, Inland Waterways ADNR (Europe):

Class:	4.3	UN-No.: 2813	PG.:	П	Labelling:	No. 4.3
Name of material:		Water-reactive s	olid, n.o.s	. (zinc	, tartaric acid).	
Tunnel restriction code:		(D1E)				

Sea Transport IMDG-Code:

Class:	4.3	UN-No.: 2813	PG.:	II
EmS:	F-G, S-N	MFAG:		
Marine pollutant:		Not applicable.		
Correct technical i	name:	Water-reactive sol	lid, n.o.s.	(zinc, tartaric acid).

Air Transport ICAO-TI and IATA-DGR:

Class:	4.3	UN-No.: 2813	PG.:	II
Proper shipping r	name:	Water-reactive se	olid, n.o.s.	(zinc, tartaric acid).

NO₃ TestSet Reagens 1 Updated: First edition

Page 5 of 5

15. Regulatory Information

Labelling According to EC Directives:

Letter code of the warning symbol and the indication of danger: Xi - Irritant, N - Dangerous for the environment. Name of the ingredient given on the warning label: Sulfanilic acid.

<u>R-Phrases</u> :	36/37/3 43 15 51/53	8 Irritating to eyes, respiratory system and skin May cause sensitisation by skin contact Contact with water liberates extremely flammable gases Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
<u>S-Phrases</u> :	2 24/25 37 43 46 61	Keep out of the reach of children Avoid contact with skin and eyes Wear suitable gloves In case of fire, use dry extinguishing agent - Never use water. If swallowed, seek medical advice immediately and show this container or label Avoid release to the environment. Refer to special instructions/material safety data sheet

German Regulations:

Water hazard class:	WHC 1 (slightly hazardous to water).

Classification according to TA Luft (2002) (Technical instructions about clean air):

16. Other Information

Denomination in Annex I of the Directive 96/82/EC (Control over dangers of disasters with hazardous substances): Observe threshold values of section 9b.

Not applicable.

The text of the R-phrases of section 3:

36/37/38 Irritating to eyes, respiratory system and skin

- 36/38 Irritating to eyes and skin
- 43 May cause sensitisation by skin contact
- 50 Very toxic to aquatic organisms
- 50 Very toxic to aquatic organisms
- 53 May cause long-term adverse effects in the aquatic environment

The information in this MSDS is correct to the best of our knowledge, information and belief at the date of its publication and is, in our opinion consistent with the state of general scientific and technical knowledge at that date, but we cannot except liability for a loss, injury or damage which may result from its use. In compiling this MSDS we have taken into account all proper application of the material of which we are aware and any user of the material should consult us before applying it to any novel or unusual use. We must point out that it is the responsibility of any intermediate supplier to ensure that the information contained in this MSDS is passed to the ultimate user.

Issue: 11/19/2008

NO₃ TestSet Reagens 2 Updated: First edition

Page 1 of 5

1. Identification of the Preparation and of the Company

Identification of the Preparation:

NO3 TestSet Reagens 2

Use of the Preparation:

Measurement of the nitrate content of water

Company:

JBL GmbH & Co. KG, Dieselstr. 3, D-67141 Neuhofen, telephone: +49 6236 4180 0 Department of MSDS: info@chemieberatung.com

Emergency Telephone:

+49 6236 4180 0

2. Hazards Identification

This preparation contains m-phenylenediamine dihydrochloride, it may produce an allergic reaction. Spilling product is harmful to aquatic organisms, it may cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Hazardous Ingredients:

EINECS-No.	CAS-No.	Name according to EC Directives	Content	Unit	Classification	R-Phrases
208-790-0	541-69-5	m-Phenylenediamine dihydrochloride	e <1	%	Muta. Cat. 3 T Xi N	68 23/34/25 36 43 50-53

The text of the R-phrases is in section 16.

4. First Aid Measures

Inhalation:

Take care of fresh air, in case of indisposition obtain medical advice.

Skin Contact:

Remove contaminated clothing, wash off affected skin with water, in case of indisposition obtain medical advice.

Eye Contact:

Spreading the eyelids rinse the eyes thoroughly with plenty of water, see an eye specialist.

Ingestion:

Let rinse out the mouth and let drink plenty of water, obtain medical advice.

5. Fire-fighting Measures

Suitable Extinguishing Media:

Product does not burn if evaporated water will be substituted.

Unsuitable Extinguishing Media:

Issue: 11/19/2008

Decomposition Products:

Thermal decomposition to carbon monoxide, hydrogen chloride gas, and organic cracked products.

Special Protective Equipment:

Tightly closing fireproof clothing and oxygen apparatus.

6. Accidental Release Measures

Person-related Precautionary Measures:

See section 8 "Exposures Controls / Personal Protection".

Environmental Precautions and Methods for Cleaning up:

Do not allow to enter waters, collect with sand or oil-binding agent.

Further Information:

No data available.

7. Handling and Storage

Handling:

General handling precautions:

Take care for good ventilation.

Protection from fire and explosion:

Adjust measures to the environment.

Storage:

Regulations of storage:

Store containers cool and tightly closed.

Incompatible materials:

Keep away from oxidising agents.

Storage class according to the VCI (Association of the German Chemical Industry):

LGK 12

8. Exposure Control / Personal Protection

Additional Information for the Formation of Technical Facilities:

No further information available, see section 7 "Handling and Storage".

Exposure Limit Values:

Updated: First edition

Page 3 of 5

Personal Protective Equipment:

General Measures for Protection and Hygiene:

Avoid contact with the skin and the eyes, when using do not eat, drink, or smoke, preventive skin care.

Breathing Protection:	Not applicable.
Hand Protection:	Protective gloves according to EN 374-1 of rubber or plastic are recommended for professional use.
Eye Protection:	Protective goggles are recommended for professional use.
Personal Protection:	Protective clothing of rubber or plastic is recommended for professional use.

9. Physical and Chemical Properties

Appearance:

State:	liquid	Colour:	colourless to	slightly grey	Odour:	insignificant odour	
Data of Safety:							
Boiling Flash P pH-Valu Flamma Ignition Auto Fla Oxidisir Explosir	ue (Concentrate):	ge:	(T = 20 ℃) lower: upper:	from 100 1.5	Not available. ℃ No flash point Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable Not applicable	: (see section 5). e. e. e. e. e. e.	

Further Information:

Density: Water Solubility: Vapour Pressure: Vapour Density (air = 1): Partition Coefficient (n-octanol / wa Viscosity: Separation of Solvents: Content of Solvents: Evaporation Number:	(T = 20 °C) (T = 20 °C) (T = 20 °C) (ter): (T = 20 °C)	1.005	g/ml Miscible in each ratio. Not available. Not available. Not available. Thin fluid. Not applicable. Not applicable. Not available.
Evaporation Number:			Not available.

10. Stability and Reactivity

Conditions to Avoid:

See section 7 "Handling and Storage".

Materials to Avoid:

Nitrites, strong oxidising agents.

Hazardous Decomposition Products:

In case of fire, see section 5.

Further Information:

No data available.

Issue: 11/19/2008

11. Toxicological Information

Acute Toxicity:

No data available.

Sensitisation:

No data available.

Empirical Data on Effects on Humans:

No data available.

Other Information on Health Effects:

No data available.

12. Ecological Information

Persistence in the Environment:

No data available.

Bioaccumulation:

No data available.

Ecotoxical Effects:

No data available.

Further Ecological Data:

No data available.

13. Disposable Considerations

Residues and contaminated packaging are special waste. For disposing ask your local authority.

Waste Classification according to EC Regulations (2000/532/EC):

07 07 99 wastes not otherwise specified

14. Transport Information

Not applicable.

15. Regulatory Information

Labelling According to EC Directives:

Letter code of the warning symbol and the indication of danger: Not applicable. Not applicable. Not applicable.

<u>R-Phrases</u> :	52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment			
<u>S-Phrases</u> :	2 28 45 61	Keep out of the reach of children After contact with skin, wash immediately with plenty of water In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible) Avoid release to the environment. Refer to special instructions/material safety data sheet			
Special label:	"Contains m-phenylenediamine dihydrochloride, it may produce an allergic reaction."				

Issue: 11/19/2008

NO₃ TestSet Reagens 2 Updated: First edition

Page 5 of 5

German Regulations:

Water hazard class: WHC 2 (hazardous to water).

Classification according to TA Luft (2002) (Technical instructions about clean air):

16. Other Information

Denomination in Annex I of the Directive 96/82/EC (Control over dangers of disasters with hazardous substances): Not applicable.

The text of the R-phrases of section 3:

23/24/25 Toxic by inhalation, in contact with skin and if swallowed

36 Irritating to eyes

43 May cause sensitisation by skin contact

50 Very toxic to aquatic organisms

53 May cause long-term adverse effects in the aquatic environment

68 Possible risk of irreversible effects

The information in this MSDS is correct to the best of our knowledge, information and belief at the date of its publication and is, in our opinion consistent with the state of general scientific and technical knowledge at that date, but we cannot except liability for a loss, injury or damage which may result from its use. In compiling this MSDS we have taken into account all proper application of the material of which we are aware and any user of the material should consult us before applying it to any novel or unusual use. We must section out that it is the responsibility of any intermediate supplier to ensure that the information contained in this MSDS is passed to the ultimate user.