

Safety Data Sheet

SDS acc. Hazard Communication Standard

REF: 934110 Photometer PF-3 Pool Page: 1/12 Printing Date: 01.10.2019 Date of Issue: 17.04.2019

Section 1: Identification

1.1 **Product Identifier / Product Name**

REF 934110

Product Name Photometer PF-3 Pool

1 x Calibration tube (5 mL)

3 x Alkaline Manganese Batteries Type AA

1 x Button cell CR2032, built-in

1 x 25 mL Cl₂-2

1 x 20 mL Cl₂-3

1 x 18 mL Cl₂-1

1.2 Relevant identified Uses of the Substance or Mixture and Uses advised against

Relevant identified uses

Product for Analytical Use.

The Exposure scenario is integrated into sections 1-16.

Uses advised against

not described

1.3 Details of the Supplier and of the Safety Data Sheet

Manufactured by:

MACHEREY-NAGEL GmbH & Co. KG

Neumann-Neander-Str. 6-8, 52355 Dueren, GERMANY

Tel.: +49 2421 969 0 E-mail: sds@mn-net.com (msds@mn-net.com)

1.4 **Emergency Telephone Number**

For Chemical Emergency

Spill, Leak, Fire, Exposure, or Accident

Call CHEMTREC Day or Night (CCN685047) Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

You find our current versions of SDS (22 languages) in Internet: http://www.mn-net.com/SDS

Section 2: Hazard(s) Identification

2.0 Classification of the complete Product



GHS07

Signal Word WARNING

Hazard Identification Hazard Classes/Categories

H315 Skin Irrit. 2 H319 Eye Irrit. 2

2.1 Classification of the Substance(s) or Mixture(s)

Calibration tube (5 mL)

Do not need labelling as hazardous

Signal Word

No Hazard Class

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Alkaline Manganese Batteries Type AA

Do not need labelling as hazardous

Signal Word

No Hazard Class

Button cell CR2032, built-in

Do not need labelling as hazardous

Signal Word

No Hazard Class

25 mL Cl₂-2



Signal Word WARNING

Hazard Identification Hazard Classes/Categories

H315 Skin Irrit. 2 H319 Eye Irrit. 2

20 mL Cl₂ -3

Do not need labelling as hazardous

Signal Word

No Hazard Class

18 mL Cl₂ -1

Do not need labelling as hazardous

Signal Word

No Hazard Class

2.2 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

According the implementation of GHS immediate packages only must be labelled with product identificator(s), GHS symbol(s), signal word, manufacturer name and phone number (OSHA's interpretation of HCS 2012).

Harmful chemicals/mixtures with signal word: WARNING must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2) / until 100 mL (Canada WHMIS 2015). This labelling exemption does not apply to U.S.A.

Calibration tube (5 mL)

Do not need labelling as hazardous Signal Word: -

Alkaline Manganese Batteries Type AA

Do not need labelling as hazardous Signal Word: -

Button cell CR2032, built-in

Do not need labelling as hazardous Signal Word: -

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25 mL Cl2 -2



Signal Word: WARNING

20 mL Cl2 -3

Do not need labelling as hazardous

Signal Word: -

18 mL Cl2 -1

Do not need labelling as hazardous

Signal Word: -

2.3 Other Hazards

Possible Hazards from physicochemical Properties

In the case of pH values are less than 5 or higher than 9 then it is irritant. ---

Information pertaining to particular Risks to Human and possible Symptoms

Information pertaining to particular Risks to the Environment

This SDS contains information on shipping and transport safety. ---

Section 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

Calibration tube (5 mL)

CAS No.: 7732-18-5 Chemical: water

Classification: No criteria for classification or naming of chemical is not required.

Chemical Formula: H_2O TSCA Inventory: listed ZC0110000 RTECS: EC No.: 231-791-2 Weight Percent: 90 - <100 %

acc. GHS: The criteria for classification are not fulfilled.

Alkaline Manganese Batteries Type AA

Chemical: alkaline manganese battery CAS No .: -

Classification: No criteria for classification or naming of chemical is not required. 99 - <100 % Weight Percent:

acc. GHS: The criteria for classification are not fulfilled.

Button cell CR2032, built-in

Button cell on circuit board (lithium metal battery) CAS No.: -Chemical:

Classification: No criteria for classification or naming of chemical is not required. Weight Percent: 99 - <100 %

acc. GHS: The criteria for classification are not fulfilled

25 mL Cl₂-2

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CAS No.: 6283-63-2

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> N,N-Diethyl-1,4-phenylene diammonium sulfate Chemical:

> Classification: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm. Chemical Formula: C₁₀ H₁₆ N₂ •H₂ O

Synonyms: N,N-diethylbenzene-1,4-diammonium sulfate

TSCA Inventory: listed (CAS 6065-27-6)

RTECS: SS9625000 MFCD: 00012993 EC No.: 228-500-6 612-080-00-X Indice No.:

Weight Percent: 0,1 - <1 % acc. GHS: The criteria for classification are not fulfilled.

CAS No.: 7664-93-9 Chemical: sulfuric acid

Classification: H314. Skin Corr. 1B Chemical Formula: H₂ SO₄ (•H₂ O) TSCA Inventory: listed RTECS: WS5600000

231-639-5 Indice No.: 016-020-00-8 EC No.:

Weight Percent: 5 - < 15 % acc. GHS: H315, Skin Irrit. 2, H319, Eye Irrit. 2

20 mL Cl₂ -3

potassium iodide Chemical: CAS No.: 7681-11-0

Classification: H319, Eye Irrit. 2

Chemical Formula: TSCA Inventory: listed

RTECS: TT29750000 MFCD: 00011405

FC No: 231-659-4 Weight Percent: 1 - < 10 %

acc. GHS: The criteria for classification are not fulfilled.

18 mL Cl₂-1

phosphate buffer solution CAS No .: -Chemical:

Classification: No criteria for classification or naming of chemical is not required.

K/Na₁₋₃ H₂₋₀ PO₄ • x H₂ O Chemical Formula:

TSCA Inventory: all listed Weight Percent: 50 - < 75 %

acc. GHS: The criteria for classification are not fulfilled.

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.

List of Hazard and Precaution phrases: see section 16.1

Section 4: First-Aid Measures

4.1 **Description of First-Aid Measures**

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice.

4.1.1 After SKIN Contact

Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use

4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).

4.1.3 After INHALATION of Vapors

After inhalation of foam or vapor fresh air should be inhaled. Keep airways free.

4.1.4 After ORAL Intake

After oral intake lots of water should be drunk after it has been ingested.

4.2 Most important Symptoms and Effects, both acute and delayed

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4.3 Indication of any immediate Medical Attention and Special Treatment needed

No additionally recommendations. ---

Section 5: Fire-Fighting Measures

5.1 Extinguishable Media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like WATER FOG, WATER SPRAY, alcohol-resistant FOAM, DRY CHEMICAL, CARBON DIOXIDE can be

5.2 Special Hazards arising from the Substance or Mixture

Formation of hazardous and caustic vapor-air mixtures possible. ---

5.3 Advice for Firefighters

No, for listed product. Product package burns like paper or plastic.

5.4 Additional Information

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedure

Regular staff training is necessary.

6.2 **Environmental Precautions**

not necessary

6.3 Methods and Material for Containment and Cleaning up

Bind any escaping liquid with inert absorbent.

Collect small amounts of leaked liquid and flush with water into sewer.

6.4 Reference to other Sections

Section 7: Handling and Storage

7.1 **Precautions for Safe Handling**

Handling in accordance with the test instruction, that comes with the product.

7.2 Conditions for Safe Storage, including any Incompatibilities

The original product package of MACHEREY-NAGEL allows a safe storage. Storage class (VCI):

Water hazard class (DE):

7.2.1 Conditions for Safe Storage, including any Incompatibilities

Keep original product packages tightly closed during handling and storage.

7.3 Specific End Use(s)

Product for analytical use.

Section 8: Exposure Controls/Personal Protection

8.1 **Control Parameters**

Calibration tube (5 mL)

Chemical: water CAS No.: 7732-18-5

Alkaline Manganese Batteries Type AA

Chemical: alkaline manganese battery CAS No .: -

Button cell CR2032, built-in

Button cell on circuit board (lithium metal battery) CAS No.: -Chemical:

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CAS No.: 6283-63-2

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25 mL Cl2 -2

N,N-Diethyl-1,4-phenylene diammonium sulfate Chemical:

NIOSH: not listed

ITWAl Time-weighted average to a reference period of 8 hours. ISTELI Short-term exposure limit related to a 15-minute period

OSHA: not listed

Chemical CAS No.: 7664-93-9 sulfuric acid

[inh] 50 µg/m³ DNEL: DNEL = Derived No-Effect Level (for workers) PNEC (fresh water): 2.5 µg/L PNEC = Predicted No Effected Concentration

l: NTP Report on Carcinogens (RoC) List Yes (Known to be a human carcinogen); [TWA] 1 mg/m³ [TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: [TWA] 1 mg/m³ EU value:

20 mL Cl₂-3

Chemical: potassium iodide CAS No.: 7681-11-0

18 mL Cl₂-1

CAS No.: -Chemical: phosphate buffer solution

8.2 **Exposure Controls**

The highest level of cleanliness must be maintained at the workplace.

8.2.1 **Respiratory Protection**

No additional recommendations.

8.2.2 **Hand Protection**

Yes, gloves (permeation time >30 min - level 2), consist of PVC, Natural latex, Neopren, or Nitril. Use for short times chemical resistant Latex gloves f.ex. with code EN 374-3 level 1.

8.2.3 **Eye/Face Protection**

Yes, Splash Goggles

Skin Protection 8.2.4

Not necessary

8.2.5 **Hygiene Measures**

> Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

Section 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Calibration tube (5 mL)

Appearance: liquid Color: colorless b) Odor: odorless a)

c) Odor Threshold: data not available

ď) pH:

Melting Point: e) data not available

Boiling Point: Flash Point: f) data not available

g) data not available

Evaporation Rate_(ether=1): h) data not available i) Flammability (solid, gas): data not available

Explosive Limits: data not available

j) k) Vapor Pressure (68°F): data not available

I) Vapor Density_(air=1): data not available

Specific Gravity: m) 1,00 g/cm³ n) Soluble in Water:

data not available

0) Partition Coefficient (o-w): data not available

p) q) r) Autoignition Temperature: data not available

Decomposition temperature: data not available

Viscosity: data not available Explosive properties: data not available

s) Oxidizing properties:

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> Alkaline Manganese Batteries Type AA Appearance: solid Color: black b) Odor: odorless c) Odor Threshold: data not available ď) data not available Melting Point: e) data not available f) Boiling Point: Flash Point: data not available g) data not available Evaporation Rate(ether=1): h) data not available i) Flammability (solid, gas): data not available j) Explosive Limits: data not available k) Vapor Pressure (68°F): data not available Vapor Density_(air=1): I) data not available Specific Gravity: m) data not available n) Soluble in Water: data not available 0) Partition Coefficient (o-w): data not available p) q) Autoignition Temperaturé: data not available Decomposition temperature: data not available Viscosity: r) data not available s) Explosive properties: data not available Oxidizing properties: Button cell CR2032, built-in Appearance: solid Color: colored b) Odor: odorless c) Odor Threshold: data not available ď) pH: data not available Melting Point: e) data not available f) **Boiling Point:** data not available g) h) Flash Point: data not available Evaporation Rate(ether=1): data not available Flammability (solid, gas): i) j) Do not transport damaged batteries. Special instruction necessary **Explosive Limits:** data not available Vapor Pressure (68°F): k) data not available I) Vapor Density(air=1): data not available m) Specific Gravity: data not available n) Soluble in Water: data not available Partition Coefficient (o-w): o) data not available p) Autoignition Temperature: data not available Decomposition temperature: data not available q) r) Viscosity: data not available s) Explosive properties: data not available t) Oxidizing properties: 25 mL Cl₂ -2 Appearance: liquid a) Color: rose b) Odor: odorless Odor Threshold: c) data not available d) pH: e) Melting Point: data not available f) Boiling Point: data not available Flash Point: g) h) data not available Evaporation Rate(ether=1): data not available Flammability (solid, gas): data not available j) Explosive Limits: data not available k) Vapor Pressure (68°F): data not available Vapor Density_(air=1): I) data not available m) Specific Gravity: 1,1 g/cm³ n) Soluble in Water: data not available o) Partition Coefficient (o-w): data not available p) q) r) Autoignition Temperature: data not available Decomposition temperature: data not available Viscosity: data not available Explosive properties: s) data not available t) Oxidizing properties:

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20 mL Cl₂-3

Appearance: liquid

DE/international: CH: FR:

Color: colorless

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b) Odor: alcoholic



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> Odor Threshold: data not available d) pH: Melting Point: e) data not available f) **Boiling Point:** data not available g) h) Flash Point: Evaporation Rate_(ether=1): data not available i) Flammability (solid, gas): data not available j) **Explosive Limits:** data not available k) Vapor Pressure (68°F): data not available Vapor Density(air=1): I) data not available Specific Gravity: m) 0,93 g/cm³ n) Soluble in Water: 0-100 % Partition Coefficient (o-w): o) data not available p) Autoignition Temperature: data not available q) r) Decomposition temperature: data not available Viscosity: data not available s) t) Explosive properties: data not available Oxidizing properties:

18 mL Cl₂ -1

Appearance: liquid Color: colorless c) Odor Threshold: data not available d) pH: Melting Point: e) data not available Boiling Point: f) data not available g) h) Flash Point: data not available Evaporation Rate(ether=1): data not available i) Flammability (solid, gas): data not available j) k) **Explosive Limits:** data not available Vapor Pressure (68°F): data not available Vapor Density(air=1): I) data not available m) Specific Gravity: 1,2 g/cm3 n) Soluble in Water: 0-100 % o) Partition Coefficient (o-w): data not available p) q) Autoignition Temperature: data not available Decomposition temperature: data not available r) Viscosity: data not available

data not available

b) Odor: odorless

9.2 Other Information

s)

Relevant Properties of Substance Group

Explosive properties:

Oxidizing properties:

Section 10: Stability and Reactivity

10.1 Reactivity

No further data available.

10.2 **Chemical Stability**

No known instability.

10.3 **Possibility of Hazardous Reactions**

No further data available

10.4 Conditions to avoid

10.5 **Incompatible Materials**

Not necessary. Avoid contact with strong acids or alkalines. ---

10.6 **Hazardous Decomposition Products**

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

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Section 11: Toxicological Information

11.1 Information on Toxicological Effects

Following information is valid for pure chemicals. Quantitative data on the toxicity of this product are not available.

Calibration tube (5 mL)

Chemical: CAS No.: 7732-18-5

TSCA Inventory: listed

Alkaline Manganese Batteries Type AA

alkaline manganese battery CAS No .: -

Button cell CR2032, built-in

Chemical: Button cell on circuit board (lithium metal battery) CAS No.: -

25 mL Cl₂ -2

Chemical: N,N-Diethyl-1,4-phenylene diammonium sulfate CAS No.: 6283-63-2

TSCA Inventory: listed (CAS 6065-27-6)California Prop. 65 List: not listed

Canada CEPA 1999: not listed 497 mg/kg LD50_{orl rat}:

Chemical: sulfuric acid CAS No.: 7664-93-9

TSCA Inventory: California Prop. 65 List: not listed listed

ACGIH:

Exposure Routes: inhalation, ingestion, skin and/or eye contact

Target Organs: Eyes, skin, respiratory system, teeth

Symptoms: irritation eyes, skin, nose, throat; pulmonary edema, bronchitis; emphysema; conjunctivitis; stomatis;

dental erosion; eye, skin burns; dermatitis Canada CEPA 1999: DSL Yes LD50_{orl rat}: 2140 mg/kg

LC50_{ihl rat}: [8h] 600/ [4h] 850 mg/m³

20 mL Cl2 -3

Chemical: potassium iodide CAS No.: 7681-11-0

TSCA Inventory: listed LD50_{orl rat}: 2779 mg/kg

18 mL Cl₂-1

phosphate buffer solution Chemical: CAS No .: -

TSCA Inventory: all listed

Section 12: Ecological Information

12.1

Following information is valid for pure chemicals.

Calibration tube (5 mL)

Chemical: water CAS No.: 7732-18-5

Alkaline Manganese Batteries Type AA

Chemical: alkaline manganese battery CAS No .: -

Button cell CR2032, built-in

CAS No .: -Chemical: Button cell on circuit board (lithium metal battery)

25 mL Cl₂ -2

CAS No.: 6283-63-2 Chemical: N,N-Diethyl-1,4-phenylene diammonium sulfate Chemical: sulfuric acid CAS No.: 7664-93-9

2.5 µg/L

PNEC_(fresh water):
PNEC = Predicted No Effected Concentration

 $LC50_{fish/96h}$: [NOEC, 65d] 25 µg/L

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> 100 ma/L EC50_{daphnia/48h}: EC10_{pseudomonas putita/16h}: [72h] 100 mg/L

20 mL Cl₂-3

Chemical: potassium iodide CAS No.: 7681-11-0

2190 mg/L LC50fish/96h: Partition Coefficient (o-w): 0.04

18 mL Cl₂ -1

Chemical: phosphate buffer solution CAS No .: -

12.2 Persistence and Degradability

not necessary

12.3 **Bioaccumulative Potential**

not necessary

12.4 Mobility in Soil

not necessary

12.5 Results of PBT and vPvB Assessment

no data available

12.6 Other Adverse Effects

no additional data available

Section 13: Disposal Considerations

Batteries must be collected separately and disposed acc. law regulations (electronic waste, f. ex. in EU WEEE). Further: Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (RCRA Code D002/D003, EU waste code number 16 05 06).

13.1 **Waste Treatment Methods**

Normally it is possible to empty small amounts (diluted!) into drains.

Section 14: Transport Information

14.1. UN/NA: 3316 14.2. Proper Shipping Name: Chemical Kit

14.3. Hazard Class: 9 14.4. Packing Group:

Transportation by Road

Classification code: M11 **Tunnel Restriction Code:**

Limited Quantity: acc. ADR 3.3.1/251: see LQ in "Alternative Declaration for Transportation"

Air Transportation

960 PAX. max. weight PAX: 10 KG CAO: 960 10 KG max. weight CAO:

Maritime Transport

F-A. S-P Storage Category: A

Or use the alternative Declaration for Transportation:

UN/NA: (see below) UN/NA 1993 Class 3 III, Class 8 III, Excepted Quantities (≤30 mL/∑≤1 L) = ADR/ IATA E1

or

14.1. UN/NA: 14.2. Proper Shipping Name: Flammable liquid, n.o.s. (... mixture)

14.3. Hazard Class: 3 14.4. Packing Group:

Transportation by Road Classification code: F1

Limited Quantity: 5 L Tunnel restriction code: Ε **Excepted Quantity:** E 1 Special instructions: 640E Air Transportation

PAX:

355 max. weight PAX: 60 L CAO: 220 L 366 max. weight CAO: Maritime Transport

EmS: F-E. S-E

Storage Category: A 14.1. UN/NA: 3264 14.2. Proper Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (sulfuric acid solution)

14.3. Hazard Class: 8 14.4. Packing Group:

Transportation by Road

Classification code: C1

Ε Limited Quantity: 5 L Tunnel restriction code:

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Excepted Quantity: Air Transportation

PAX: 852 max. weight PAX: 5 L max. weight CAO: CAO 856

Maritime Transport

F-A. S-B Storage Category: A FmS:

14.5 **Environmental Hazards**

14.6 Special Precautions for User

14.7 Transport in Bulk according to Annex II of MARPOL and the IBC Code

not applicable

Section 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

U.S. Federal Regulations

OSHA "A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"

https://www.osha.gov/dsg/hazcom/ghs.html

29 CFR 1910.1200 Hazard communication.

NIOSH Pocket Guide to Chemical Hazards

NIOSH Workplace Safety & Health Topics

TSCA Inventory

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

Canada

Canada CEPA 1999 - Domestic Substances List (DSL), List of Toxic Substances (Schedule 1)

MN Leaflet/User manual, also see www.mn-net.com

15.2 **Chemical Safety Assessment**

not necessary for these small amounts ---

Section 16: Other Information

16.1 **List of Hazard and Precaution Phrases**

16.1.1 List of relevant H Phrases

> H315 Causes skin irritation. H319 Causes serious eye irritation.

16.1.2 List of relevant P Phrases

P280sh Wear protective gloves/eye protection.

16.2 Training Advice

Regular safety training.

16.3 Recommended Restriction on Use

Only for Professional User.

An individual package of this product or test kit has a moderate hazardous potential.

16.4 **Further Information**

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16.5 Sources of Key Data

GHS: EU Regulation 1272/2008/EC on Classification, Labelling and Packaging of Substances and Mixtures, amending and repealing EU Directives 67/548/EEC and 1999/45/EC, and amending EU Regulation 1907/2006/EC SDS: EU Regulation 453/2010/EU REACH - Requirements for the Compilation of Safety Data Sheets KÜHN, BIRETT (German), Data Sheets of Hazardous Substances

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Safety Data Sheet

SDS acc. Hazard Communication Standard

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You find our current Versions of SDS in Internet:

http://www.mn-net.com/SDS [U.S. English]

www.mn-net.com

US:

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