



DECKMA HAMBURG GmbH

Abgleichüberprüfung OCD and OMD Monitore

Eine Überprüfung der Messgenauigkeit vor Ort ist immer mit der Schwierigkeit verbunden, das eine Vergleichslösung zur Einstellung der Empfindlichkeit benötigt wird. Formazin hat sich hierfür als geeignet herausgestellt.

Formazin besteht aus: **Hydrazinsulfat** (N₂ H₆ SO₄)
 Hexamethylentetramin (C₆ H₁₂ N₄)

Diese Stammlösung hat eine Trübung von 4.000 FTU (Formazin Turbidity Units*) und bleibt einige Monate unverändert. Durch Verdünnung dieser Stammlösung mit destilliertem Wasser erhält man die gewünschten Trübung-Standards.

Verdünnungstabelle: (Vor Gebrauch ist die Stammlösung gründlich zu schütteln.)

Formazin Konzentrat FTU	Formazin (4000 FTU) in 200ml Wasser	Anzeige		
		OCD-1 ff	OMD-11 / 17	OMD-21
150	7,5 ml	30	24	18
100	5 ml	20	16	12
50	2,5 ml	10	8	6

Die unterschiedlichen Anzeigen resultieren aus verschiedener Feststoffempfindlichkeit

Gemäß MEPC. 60(33) ist eine Messgenauigkeit von ± 5 ppm bei einer 15ppm Testflüssigkeit gefordert.

Sicherheitshinweise siehe Material-Sicherheitsdatenblatt

Bestell Nr. Formazin Test Paket: **18500**
Inhalt: 1 Stück Flasche mit 50 ml Formazin 4000 FTU
 2 Stück Pipetten 3ml
 1 Stück Becher 250 ml
 1 Paar Handschuhe

* FTU ist identisch mit NTU (Nephelometric Turbidity Units) und TEF (Trübungseinheiten Formazin)

Abgleichüberprüfung

- a) Schalte die Stromversorgung aus und stoppe die Wasserzufuhr.
- b) Reinige die Glasleitröhre gründlich mit reinem Wasser unter Benutzung einer passenden Reinigungsbürste wie im entsprechenden Abschnitt des dazugehörigen Handbuches beschrieben.
- c) Entleere die Glasleitröhre und fülle reines Wasser ein. Überprüfe den Nullabgleich. Wenn nötig, justiere den Nullpunkt auf 1ppm um einen negativen Offset zu vermeiden.
- d) Entleere die Glasleitröhre und fülle eine 100 FTU Formazin Lösung ein. Unter Umständen kann es notwendig sein, die Glasleitröhre zweimal mit der Formazinlösung zu füllen, um Verdünnungen durch eventuelles Restwasser auszuschliessen.
- e) Überprüfe die Anzeige entsprechend der obigen Tabelle.
- f) Wenn die Abgleichüberprüfung nicht die maximal zulässigen ± 5 ppm ergibt, muss eine Justierung entsprechend der Anleitung im dazugehörigen Betriebshandbuch durchgeführt werden.

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Date Printed 8/9/02
MSDS No: M00482

Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Formazin Turbidity Standard 4000 FNU
Catalog Number: 246149

Hach Europe by Dr. Bruno Lange GmbH & Co. KG
Willstätterstrasse 11
40549 Düsseldorf, Germany
49-(0)211-52880

Emergency Telephone Numbers:
(Poison Information Center Main)
(49) (6131) 19240 24 HR

MSDS Number: M00482
Chemical Name: Not applicable.
CAS No.: Not applicable
Chemical Formula: Not applicable.
Chemical Family: Not applicable
Date of MSDS Preparation:
Day: 9
Month: 08
Year: 2002

Additional Emergency Response Numbers: Austria: 43-1-4064343, Belgium: 32-70-245245, France: 33-1-40370404,
Italy: 39-02-66101029, Netherlands: 31-30-2748888, Switzerland: 41-1-2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Hexamethylenetetramine

CAS No.: 100-97-0
EEC Number: 2029058
Percent Range: 1,0 - 10,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: Xn - HARMFUL
Ingredient R phrase(s): R 42/43
TLV: Not established
PEL: Not established

Demineralized Water

CAS No.: 7732-18-5
EEC Number: 2317912
Percent Range: 90,0 - 100,0
Percent Range Units: volume / volume
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s): Not applicable
TLV: Not established
PEL: Not established

Formaldehyde

CAS No.: 50-00-0
EEC Number: 2000018
Percent Range: < 0,1
Percent Range Units: weight / weight
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s): Not applicable
TLV: C: 0,37mg/m³
PEL: 0,75 ppm

Formazin Polymer

CAS No.: Not available
EEC Number: Various
Percent Range: < 1,0
Percent Range Units: weight / weight
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s): Not applicable
TLV: Not established.
PEL: Not established.

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Turbid, milky suspension
Odor: None
EU Symbols: Xn - HARMFUL
R PHRASES: R 42/43: May cause sensitization by inhalation and skin contact.

HMIS:

Health: 2
Flammability: 0
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.

Potential Health Effects:

Eye Contact (EC): May cause irritation
Skin Contact (EC): May cause irritation May cause allergic reaction
Skin Absorption (EC): None Reported
Target Organs (SA E): Not applicable
Ingestion (EC): May cause: gastrointestinal tract irritation
Target Organs (Ing E): Not applicable
Inhalation: May cause: allergic skin reaction
Target Organs (Inh E): Not applicable
Medical Conditions Aggravated: Allergies or sensitivity to hexamethylenetetramine.
Chronic Effects: Chronic overexposure may cause symptoms similar to acute exposure.
Cancer / Reproductive Toxicity Information:
This product does NOT contain any IARC listed chemicals.

Additional Cancer / Reproductive Toxicity Information: Contains: an experimental mutagen.
Toxicologically Synergistic Products: None reported

4. FIRST AID

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.
Skin Contact (First Aid): Wash skin with plenty of water. Remove contaminated clothing. Call physician if irritation develops.
Ingestion (First Aid): Induce vomiting using syrup of ipecac or by sticking finger down throat. Never give anything by mouth to an unconscious person. Call physician immediately.
Inhalation: Remove to fresh air.

5. FIRE FIGHTING MEASURES

Flammable Properties: During a fire, this product decomposes to form toxic gases.
Hazardous Combustion Products: Toxic fumes of: ammonia formaldehyde nitrogen oxides. carbon monoxide, carbon dioxide.
Fire / Explosion Hazards: None reported
Static Discharge: None reported.
Mechanical Impact: None reported
Extinguishing Media: Use media appropriate to surrounding fire conditions

Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

Containment Technique: Absorb spilled liquid with non-reactive sorbent material. Dike large spills to keep spilled material from entering sewage and drainage systems or bodies of water.

Clean-up Technique: Absorb spilled liquid with non-reactive sorbent material. Sweep up material. Place material in a plastic bag. Mark bag 'Non-hazardous trash', and dispose of as normal refuse. Decontaminate the area of the spill with a soap solution.

Evacuation Procedure: Evacuate as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.

D.O.T. Emergency Response Guide Number: Not applicable.

7. HANDLING / STORAGE

Handling: Avoid contact with eyes skin Do not breathe mist or vapors. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

Storage: Keep container tightly closed when not in use. Protect from: heat

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Maintain general industrial hygiene practices when using this product.

Personal Protective Equipment:

Eye Protection: safety glasses with top and side shields

Skin Protection: disposable latex gloves

Inhalation Protection: adequate ventilation

Precautionary Measures: Avoid contact with: eyes skin Do not breathe: mist/vapor Wash thoroughly after handling.

TLV: Not established.

PEL: Not established.

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Turbid, milky suspension

Physical State: Liquid

Odor: None

pH: 6,4

Vapor Pressure: Not determined.

Vapor Density (air = 1): Not determined.

Boiling Point: ~ 100°C (~ 212°F)

Melting Point: Not applicable.

Flash Point: Not applicable.

Method: Not applicable

Autoignition Temperature: Not determined.

Flammability Limits:

Lower Explosion Limits: Not applicable.

Upper Explosion Limits: Not applicable.

Specific Gravity (water = 1): 1,002

Evaporation Rate (water = 1): 0,63

Volatile Organic Compounds Content: Not determined.

Partition Coefficient (n-octanol / water): Not applicable.

Solubility:

Water: Miscible.

Acid: Miscible.

Other: Not determined.
Metal Corrosivity:
Steel: Not determined.
Aluminum: Not determined.

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Extreme temperatures
Reactivity / Incompatibility: Incompatible with: oxidizers
Hazardous Decomposition: Heating to decomposition releases: ammonia carbon monoxide formaldehyde nitrogen oxides
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
LD50: Oral rat LD50 > 5000 mg/kg
LC50: None reported.
Dermal Toxicity Data: None reported.
Skin and Eye Irritation Data: None reported.
Mutation Data: None reported.
Reproductive Effects Data: None reported.

Ingredient Toxicological Data: Hexamethylenetetramine: Oral mouse LDLo = 512 mg/kg.

This product does NOT contain any IARC listed chemicals.

12. ECOLOGICAL INFORMATION

Product Ecological Information: No specific ecological information available for this product.

Ingredient Ecological Information: Hexamethylenetetramine: Water Pollution Factors: BOD₅: 0,015; 0,026 std. dil. sew.

13. DISPOSAL CONSIDERATIONS

Special Instructions (Disposal): Dilute material with excess water making a weaker than 5% solution. Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.
Empty Containers: Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.
NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information.

14. TRANSPORT INFORMATION

I.C.A.O.:
I.C.A.O. Proper Shipping Name: Not Currently Regulated

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ICAO Hazard Class: NA
ICAO Subsidiary Risk: NA
ICAO ID Number: NA
ICAO Packing Group: NA

I.M.O.:
I.M.O. Proper Shipping Name: Not Currently Regulated

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I.M.O. Hazard Class: NA

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I.M.O. Subsidiary Risk: NA
I.M.O. ID Number: NA
I.M.O. Packing Group: NA
A.D.R.:
A.D.R. Proper Shipping Name: Not Currently Regulated
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A.D.R Hazard Class: NA
A.D.R. Subsidiary Risk: NA
A.D.R. ID Number:: NA
A.D.R. Packing Group: NA

15. REGULATORY INFORMATION

National Inventories:

EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.
EEC Number: Not applicable.

EEC LABEL COPY:

EU Symbols: Xn - HARMFUL
R PHRASES: R 42/43: May cause sensitization by inhalation and skin contact.
S PHRASES: S 24: Avoid contact with skin. S 37: Wear suitable gloves.
BAG T Number: 610200
Poison Class: Free

16. OTHER INFORMATION

Intended Use: Standard solution

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1-42) Supplement 7. France: 1987. Lefevre, Marc J. First Aid Manual for Chemical Accidents, 2nd Ed. New York: Van Nostrand Reinhold Company, 1989. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. Sixth Annual Report on Carcinogens, 1991. U.S. Department of Health and Human Services. Rockville, MD: Technical Resources, Inc. 1991. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Verschueren, Karel. Handbook of Environmental Data on Organic Chemicals. New York: Van Nostrand Reinhold Co., 1977.

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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