

## Safety data sheet according to 1907/2006/EC, Article 31

Print date 21.07.2011 (DD.MM.YYYY)

Version number 30

Revision: 21.07.2011

### \* 1 Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier** Reagent for water analysis
- **Product name:** Vario Hexamine F20 ml
- **Catalog number:** 251400Y
- **1.2 Details of the supplier of the safety data sheet**
- **Supplier:**  
YSI  
1725 Brannum Lane  
Yellow Springs, OH 45387  
USA  
tel: +1 937-767-7241
- **Informing department:**  
MSDSinfo@ysi.com
- **Emergency information:**  
Chemtrec toll free (USA and Canada): (800) 424-9300  
Chemtrec International Telephone Number: 001 703-527-3887 (Collect Calls Accepted)

### \* 2 Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Sol. 2 H228 Flammable solid.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xi; Sensitising

R43: May cause sensitisation by skin contact.



F; Highly flammable

R11: Highly flammable.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS02, GHS07
- **Signal word** Warning
- **Hazard-determining components of labelling:**  
methenamine

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**· Hazard statements**

H228 Flammable solid.

H317 May cause an allergic skin reaction.

**· Precautionary statements**

P280 Wear protective gloves.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.





P363 Wash contaminated clothing before reuse.

P370+P378 In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### \* 3 Composition/information on ingredients

**· 3.2 Chemical characterization: Mixtures**
**· Dangerous components:**

CAS: 100-97-0	methenamine	 Xi R43;  F R11	> 98%
EINECS: 202-905-8		 Flam. Sol. 2, H228;  Skin Sens. 1, H317	
Index number: 612-101-00-2			

**· REACH - Pre-registered substances** All components are REACH pre-registered.

**· Additional information** For the wording of the listed risk phrases refer to section 16.

### \* 4 First aid measures

**· 4.1 Description of first aid measures**
**· General information** Instantly remove any clothing soiled by the product.

**· After inhalation** Supply fresh air or oxygen; call for doctor.

**· After skin contact**

Instantly rinse with water.

Seek medical treatment.

**· After eye contact**

Rinse opened eye for several minutes under running water (at least 15 minutes). If symptoms persist, consult doctor.

**· After swallowing**

Rinse out mouth and then drink 1-2 glasses of water.

Seek medical treatment.

**· 4.2 Most important symptoms and effects, both acute and delayed**

allergic reactions

after inhalation:

breathing difficulty

coughing

asthma attacks

after swallowing:

sickness

vomiting

cramps

mucous membrane irritation

gastric or intestinal trouble

**· Danger** risk of skin sensitization

**· Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### 5 Firefighting measures

**· 5.1 Extinguishing media**
**· Suitable extinguishing agents**

Foam

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Alcohol-resistant foam

Fire-extinguishing powder

Carbon dioxide (CO<sub>2</sub>)

- **5.2 Special hazards arising from the substance or mixture**

Can form explosive gas-air mixtures.

Can be released in case of fire:

Nitrogen oxides (NO<sub>x</sub>)

formaldehyde

Hydrogen cyanide (HCN)

nitrous gases

ammonia (NH<sub>3</sub>)

- **5.3 Advice for firefighters**

- **Protective equipment:**

Wear full protective suit.

Wear self-contained breathing apparatus.

- **Additional information**

Cool endangered containers with water spray jet.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Collect contaminated fire fighting water separately. It must not enter drains.

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## 6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Avoid causing dust.

Use breathing protection against the effects of fumes/dust/aerosol.

- **6.2 Environmental precautions:**

Do not allow product to reach sewage system or water bodies.

Damp down gases/fumes/haze with water spray jet.

- **6.3 Methods and material for containment and cleaning up:**

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

Collect mechanically.

- **6.4 Reference to other sections**

See Section 8 for information on personal protection equipment.

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## \* 7 Handling and storage

- **Handling**

- **7.1 Precautions for safe handling**

Thorough dedusting.

Work only in fume cupboard.

Use only in well ventilated areas.

- **Information about protection against explosions and fires:**

Dust can combine with air to form an explosive mixture.

Protect from heat.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

- **7.2 Conditions for safe storage, including any incompatibilities**

- **Storage**

- **Requirements to be met by storerooms and containers:** Store in cool location.

- **Information about storage in one common storage facility:**

Do not store together with acids.

Store away from oxidizing agents.

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- **Further information about storage conditions:**
  - Keep container tightly sealed.
  - Store in cool, dry conditions in well sealed containers.
  - Store under dry conditions.
  - Protect from humidity and keep away from water.
  - Protect from the effects of light.
  - This product is hygroscopic.
- **Recommended storage temperature:** 20°C +/- 5°C
- **Storage class** 4.1B
- **7.3 Specific end use(s)** No further relevant information available.

## \* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

### · 8.1 Control parameters

- **Components with limit values that require monitoring at the workplace:**

#### 100-97-0 methenamine (90-100%)

OEL (Sweden)	Short-term value: 5 mg/m <sup>3</sup> Long-term value: 3 mg/m <sup>3</sup> S
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- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
  - Keep away from foodstuffs, beverages and food.
  - Take off immediately all contaminated clothing
  - Wash hands during breaks and at the end of the work.
  - Do not eat, drink or smoke while working.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Combination filter A-P2
- **Protection of hands:** After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
  - nitrile rubber, NBR
  - Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
  - Value for the permeation: Level ≥ 1 (>10 min)
  - The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

## \* 9 Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

### · Appearance:

<b>Form:</b>	Powder
<b>Colour:</b>	White
<b>Odour:</b>	Amine-like
<b>pH-value (20 g/l) at 20°C:</b>	8.5
<b>Melting point/Melting range:</b>	280, Subl.°C
<b>Boiling point/Boiling range:</b>	Not determined

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· <b>Flash point:</b>	> 100°C
· <b>Inflammability (solid, gaseous)</b>	Highly flammable.
· <b>Critical values for explosion:</b>	
<b>Lower:</b>	20 g/m <sup>3</sup>
<b>Upper:</b>	Not determined
· <b>Density at 20°C</b>	1.331 g/cm <sup>3</sup>
· <b>Settled apparent density at 20°C</b>	600 kg/m <sup>3</sup>
· <b>Solubility in / Miscibility with Water at 20°C:</b>	100 g/l
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Solids content:</b>	100.0 %
· <b>9.2 Other information</b>	No further relevant information available.

## \* 10 Stability and reactivity

- **Reactivity**
- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **Possibility of hazardous reactions**
  - with nitric acid, acetic anhydride
  - Reacts with metals forming hydrogen (--> Explosive!)
  - Strong exothermic reaction with acids
  - Reacts with halogenated compounds
  - The product is not capable of dust explosion in the form supplied; enrichment with fine dust causes risk of dust explosion
  - Corrodes aluminium
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
  - acids
  - peroxides
  - halogenated hydrocarbons
  - iodide
  - oxidizing agents
- **Hazardous decomposition products:**
  - formaldehyde
  - see chapter 5

## \* 11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
  - Quantitative data on the toxicity of the preparation are not available.
  - The following statements refer to the individual components.

### · LD/LC50 values that are relevant for classification:

#### 100-97-0 methenamine

Oral	LD50	9200 mg/kg (rat) (IUCLID)
	LD50	9200 mg/kg (rat) intravenous

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- **Primary irritant effect:**
- **on the skin:** temporary erythema possible
- **on the eye:** slight irritations possible
- **Sensitization:** Sensitization possible by skin contact.
- **Experience with humans:** Can cause kidney damages.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:  
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** no data available

### \*12 Ecological information

#### · 12.1 Toxicity

##### · Aquatic toxicity:

###### 100-97-0 methenamine

EC50	36 mg/l/48h (Daphnia magna) (IUCLID)
LC50	49.8 mg/l/96h (Pimephales promelas)
Toxicity EC10	5 g/l (fish)
Toxicity ECo	10 g/l/48h (Daphnia magna)

#### · 12.2 Persistence and degradability

 No further relevant information available.

#### · Other information:

The product is biodegradable.

CAS-No. 100-97-0: 39-47% / 28 d

#### · Behaviour in environmental systems:

###### 100-97-0 methenamine

log P(o/w) -2.84 (.)

#### · 12.3 Bioaccumulative potential

 Does not accumulate in organisms

#### · 12.4 Mobility in soil

 No further relevant information available.

#### · Additional ecological information:

#### · BSB5-value:

###### 100-97-0 methenamine

BSB5 0.015 g/g (.)

#### · General notes:

Water hazard class 1 (German Regulation) (Self-assessment acc. VwVwS Annex 4): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralized.

#### · 12.5 Results of PBT and vPvB assessment

 no data available

#### · vPvB assessments:

 no data available

#### · 12.6 Other adverse effects

 No further relevant information available.

### \*13 Disposal considerations

#### · 13.1 Waste treatment methods

#### · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to disposers of hazardous waste.

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<b>· European waste catalogue</b>	16 05 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
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**· Uncleaned packagings:****· Recommendation:** Disposal must be made according to official regulations.**· Recommended cleaning agent:** Water, if necessary with cleaning agent.

### \*14 Transport information

**· 14.1 UN-Number****· ADR, IMDG, IATA**

UN1328

**· 14.2 UN proper shipping name****· ADR**

1328 HEXAMETHYLENETETRAMINE

**· IMDG, IATA**

HEXAMETHYLENETETRAMINE

**· 14.3 Transport hazard class(es)****· ADR****· Class**

4.1 (F1) Flammable solids, self-reactive substances and solid desensitised explosives.

**· Label**

4.1

**· IMDG, IATA****· Class**

4.1 Flammable solids, self-reactive substances and solid desensitised explosives.

**· Label**

4.1

**· 14.4 Packing group****· ADR, IMDG, IATA**

III

**· 14.5 Environmental hazards:****· Marine pollutant:**

No

**· 14.6 Special precautions for user**

Warning: Flammable solids, self-reactive substances and solid desensitised explosives.

**· Kemler Number:**

40

**· EMS Number:**

F-A,S-G

**· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

**· Transport/Additional information:****· ADR****· Limited quantities (LQ)**

5 kg

**· Tunnel restriction code**

E

**· UN "Model Regulation":**

UN1328, HEXAMETHYLENETETRAMINE, 4.1, III

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### \* 15 Regulatory information

- **15.4 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Information about limitation of use:**
  - Employment restrictions concerning young persons must be observed.
  - Observe employment restrictions for pregnant and nursing mothers according to the 'mother protection guideline' (92/85/EEC)
  - .
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### \* 16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
  - H228 Flammable solid.
  - H317 May cause an allergic skin reaction.
  - R11 Highly flammable.
  - R43 May cause sensitisation by skin contact.
- **Abbreviations and acronyms:**
  - EC50: effective concentration, 50 percent (in vivo)
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
  - IMDG: International Maritime Code for Dangerous Goods
  - IATA: International Air Transport Association
  - ICAO: International Civil Aviation Organization
  - GHS: Globally Harmonized System of Classification and Labelling of Chemicals
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
- **Sources**
  - IUCLID (International Uniform Chemical Information Database)
  - International Chemical Safety Cards (ICSCs)
  - Data arise from reference works and literature.
- **\* Data compared to the previous version altered.**