

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO 7027-1:2016, DEV C21

Revision date: 17.11.2021

Product code: 01368

Page 1 of 11

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

1.1. Product identifier

Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO 7027-1:2016, DEV C21

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	Fa. Bernd Kraft GmbH	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
e-mail:	info@berndkraft.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
e-mail:	produktsicherheit@berndkraft.de	
Internet:	www.berndkraft.de	
Responsible Department:	Abteilung Produktsicherheit	

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

This product is a mixture. REACH Registration Number see section 3.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Sens. 1; H317

Carc. 1B; H350

Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

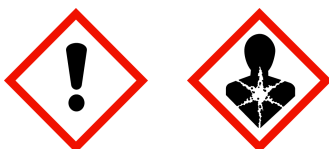
Hazard components for labelling

methenamine

hydrazinium(2+) sulphate

Signal word: Danger

Pictograms:



Safety Data Sheet

according to Regulation (EC) No 1907/2006

Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO 7027-1:2016, DEV C21

Revision date: 17.11.2021

Product code: 01368

Page 2 of 11

Hazard statements

- H317 May cause an allergic skin reaction.
- H350 May cause cancer.
- H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

- P201 Obtain special instructions before use.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P362+P364 Take off contaminated clothing and wash it before reuse.

Special labelling of certain mixtures

Restricted to professional users.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
100-97-0	methenamine			1 - < 5 %
	202-905-8	612-101-00-2	01-2119474895-20	
	Flam. Sol. 2, Skin Sens. 1; H228 H317			
10034-93-2	hydrazinium(2+) sulphate			< 1 %
	233-110-4	007-014-00-6		
	Carc. 1B, Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 1; H350 H331 H311 H301 H317 H400 H410			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
100-97-0	202-905-8	methenamine	1 - < 5 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 20000 mg/kg	
10034-93-2	233-110-4	hydrazinium(2+) sulphate	< 1 %
		inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: ATE = 300 mg/kg; oral: ATE = 100 mg/kg	

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

**Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO
7027-1:2016, DEV C21**

Revision date: 17.11.2021

Product code: 01368

Page 3 of 11

General information

Self-protection of the first aider

After inhalation

Provide fresh air.

Call a physician immediately.

After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water.

Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Allergic reactions

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Do not breathe dust/fume/gas/mist/vapours/spray.

**Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO
7027-1:2016, DEV C21**

Revision date: 17.11.2021

Product code: 01368

Page 4 of 11

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

- Cover drains.
- Prevent spread over a wide area (e.g. by containment or oil barriers).
- Collect in closed and suitable containers for disposal.
- Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

- Provide adequate ventilation.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

- Safe handling: see section 7
- Personal protection equipment: see section 8
- Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

- If handled uncovered, arrangements with local exhaust ventilation have to be used.
- Read label before use. Handle and open container with care.
- When using do not eat, drink, smoke, sniff. Keep container tightly closed.
- Use personal protection equipment. Use extractor hood (laboratory).
- Provide adequate ventilation.
- Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

- Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.
- Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Further information on handling

- Draw up and observe skin protection programme.
- Wash hands and face before breaks and after work and take a shower if necessary.
- Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

Further information on storage conditions

Store in a place accessible by authorized persons only.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO 7027-1:2016, DEV C21

Revision date: 17.11.2021

Product code: 01368

Page 5 of 11

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
100-97-0	methenamine			
Worker DNEL, long-term		inhalation	systemic	5,6 mg/m ³
Worker DNEL, long-term		dermal	systemic	6,4 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	1,2 mg/m ³
Consumer DNEL, long-term		dermal	systemic	3,2 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,8 mg/kg bw/day

PNEC values

CAS No	Substance	Value
100-97-0	methenamine	
Environmental compartment		
Freshwater		3 mg/l
Freshwater (intermittent releases)		30 mg/l
Marine water		0,3 mg/l
Freshwater sediment		10,2 mg/kg
Marine sediment		1,02 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		0,28 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection:
Face protection shield
goggles.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact
Recommended glove articles: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

**Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO
7027-1:2016, DEV C21**

Revision date: 17.11.2021

Product code: 01368

Page 6 of 11

By short-term hand contact
Recommended glove articles: KCL 741 Dermatrill® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet (>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Colour: whitish
Odour: characteristic

Changes in the physical state

Melting point/freezing point: No data available
Boiling point or initial boiling point and boiling range: No data available
Sublimation point: No data available
Softening point: No data available
Pour point: No data available
No data available:
Flash point: X

Flammability

Solid/liquid: not applicable
Gas: not applicable

Explosive properties

No data available

Lower explosion limits: No data available
Upper explosion limits: No data available
Auto-ignition temperature: No data available

Self-ignition temperature

Solid: not applicable
Gas: not applicable

Decomposition temperature: No data available
pH-Value: No data available
Viscosity / dynamic: No data available

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO 7027-1:2016, DEV C21

Revision date: 17.11.2021

Product code: 01368

Page 7 of 11

Viscosity / kinematic:	No data available
Flow time:	No data available
Water solubility:	No data available
Solubility in other solvents not determined	
Partition coefficient n-octanol/water:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density (at 20 °C):	No data available
Bulk density:	No data available
Relative vapour density:	No data available

9.2. Other information

Information with regard to physical hazard classes

Oxidizing properties
No data available

Other safety characteristics

Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	No data available
Evaporation rate:	No data available

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire may be liberated:
SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicokinetics, metabolism and distribution

There are no data available on the mixture itself.

Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO 7027-1:2016, DEV C21

Revision date: 17.11.2021

Product code: 01368

Page 8 of 11

Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
100-97-0	methenamine				
	oral	LD50 > 20000 mg/kg	Rat	Food Cosmet. Toxicol. 3, 362-363 (1966)	The study was conducted in 1966 before O
	dermal	LD50 > 2000 mg/kg	Rat	Study report (1997)	OECD Guideline 402
10034-93-2	hydrazinium(2+) sulphate				
	oral	ATE 100 mg/kg			
	dermal	ATE 300 mg/kg			
	inhalation vapour	ATE 3 mg/l			
	inhalation dust/mist	ATE 0,5 mg/l			

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitising effects

May cause an allergic skin reaction. (methenamine; hydrazinium(2+) sulphate)

Carcinogenic/mutagenic/toxic effects for reproduction

May cause cancer. (hydrazinium(2+) sulphate)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

11.2. Information on other hazards

Other information

There are no data available on the mixture itself.

Further information

Allergic reactions

SECTION 12: Ecological information

12.1. Toxicity

There are no data available on the mixture itself.

Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO 7027-1:2016, DEV C21

Revision date: 17.11.2021

Product code: 01368

Page 9 of 11

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
100-97-0	methenamine					
	Acute fish toxicity	LC50 mg/l	41000	96 h	Lepomis macrochirus	Study report (1976) other: U.S. EPA, 1975: Methods for Acute
	Acute crustacea toxicity	EC50 mg/l	36000	48 h	Daphnia magna	Study report (1980) other: ASTM Committee on Water Quality,
	Algae toxicity	NOEC mg/l	1500	14 d	Pseudokirchneriella subcapitata	Study report (1980) other: National Environmental Research C
	Acute bacteria toxicity	(EC50 mg/l)	> 5000	0,5 h	Vibrio fisheri	Arch. Environ. Contam. Toxicol. 28, 229-

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
100-97-0	methenamine	-2,18

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

There are no data available on the mixture itself.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not empty into drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO 7027-1:2016, DEV C21

Revision date: 17.11.2021

Product code: 01368

Page 10 of 11

Land transport (ADR/RID)

- 14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

- 14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

- 14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

- 14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

(SEVESO III):

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D):

3 - highly hazardous to water

SECTION 16: Other information

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Formazine standard suspension 4000 formazine attenuation units (FAU) EN ISO 7027-1:2016, DEV C21

Revision date: 17.11.2021

Product code: 01368

Page 11 of 11

GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service
 LC50: Lethal concentration, 50%
 LD50: Lethal dose, 50%

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Skin Sens. 1; H317	Calculation method
Carc. 1B; H350	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H228	Flammable solid.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H350	May cause cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)