



SAFETY DATA SHEET

(D.M. 28/1/1992 and ministerial memorandum of 1/4/1992 nr. 15) (D.M. 04/04/1997 enforcement of D.L. 03/02/1997 n. 52)

1.1 COMPOUND IDENTIFICATION

STERIFUM®

1.2 COMPANY IDENTIFICATION

Jazeeraat Al-Yaqut inv. Ltd

Al Hasan Industrial City – Irbid – HKJ

Tel: +962 2 7395255

Under License: Fortuna Bay –Milano Italy

Emergency calls: ANTIPOISON CENTRE - Niguarda Hospital - Milan - Tel. 02.66 101029

1.3. ACTIVE SUBSTANCE BIOCIDES (Regulations 2032/2003):

Name	CAS	Number CE
Formaldehyde	50.00.0	200-001-8

2.0 CHEMICAL COMPOSITION / INFORMATION ABOUT COMPONENTS

Name	CAS	RISK SENTENCES	%
Paraformaldehyde	30525-89-4	R-22-36 / 37-R-40-43	40

2.1 CHEMICAL COMPOSITION / INFORMATION ABOUT COMPONENTS

Dangerous ingredients	% p/p	Danger classification	Risk sentences
Paraformaldehyde	40	Xn	22-36 / 37-40-43

3. DANGER IDENTIFICATION

3.1 Dangers to human beings:

It is toxic if inhaled and swallowed. It irritates the respiratory tract, skin and eyes.

3.2 Dangers to environment:

It inhibits the growth of bacteria, algae and fungi with a quantity of 1-2 mg/l, depending on the species.

4. FIRST AID MEASURES

4.1 Symptoms and effects:

(a) *Skin contact:* Inflammatory dermatitis, possible allergic reactions.

(b) *Eye contact:* It can cause burns. The exposure to fumes can cause irritations and strong lachrymation.

(c) *Ingestion:* Irritation of the digestive system mucosa. Possible loss of consciousness.

(d) *Inhalation:* Irritation of the respiratory system mucosa, cough, bronchitis and mucosity.

4.2 Measures to be taken:

(a) *Skin contact:* Rinse abundantly with water more than once. If there are irritations, require medical treatment.

- (b) *Eye contact:* Rinse them abundantly with water for 10-15 minutes. Require medical treatment.
- (c) *Ingestion:* If the patient is conscious, make him drink a lot of water and cause vomiting. Require medical treatment.
- (d) *Inhalation:* Bring the patient in the open air. In serious cases give him oxygen. Require medical treatment.

5. ANTI-FIRE MEASURES

5.1 Appropriate extinction agents:

Water CO₂ Foam Dry chemical powder

5.2 Extinction agents not to be used:

None we are aware of.

5.3 Specific particular risks coming from the exposure to the substance or compound, to combustion products or to produced gases.

The presence in the air of paraformaldehyde powder (< 200 microns), with concentrations superior to 40 g/litre can be explosive if it Comes into contact with an ignition source. The thermic decomposition of STERIFUM containing paraformaldehyde produces formaldehyde fumes.

5.4 Special protective equipment for workers carrying out the anti-fire intervention:

It is recommended to use an equipment with a self-respirator in case of big fires, because of the risk represented by the presence of combustion gases (carbon monoxide) and formaldehyde fumes.

6. MEASURES TO BE TAKEN AGAINST ACCIDENTAL LEAKS

6.1 Personal precautions:

Use the protective equipment, glasses, gloves, as well as mask having a chemical filter. Avoid ignition sources.

6.2 Environment care precautions:

Do not make the product expand by air action, covering it if necessary with a piece of cloth or plastic material.

6.3 Cleaning methods:

Recover the biggest quantity of the product in appropriate containers. Cover the product that can not be picked up with inert porous material (sand, sawdust, etc.) and pick it up in closed containers. If it cannot be recycled, the best elimination method is to ignite it.

7. HANDLING AND STORING

7.1 Handling:

In well ventilated rooms. Arrange the fitting of extinctions means in proximity to the storing area, as well as means to rinse eyes and skin.

7.2 Storing:

Possibly at temperatures inferior to 25°C and ambient humidity superior to 70%.

8. EXPOSURE CHECK / PERSONAL PROTECTION

8.1 Recommended exposure check equipment:

See section 8.4

8.2 Check parameters (for gas formaldehyde):

Ingredient	OSHA PEL	ACGIH	ACGIH	JDLH
Formaldehyde	1 ppm, 8h TWA	2 ppm	1 ppm	100 ppm
	2 ppm 15 mm STEL	3 mg/m ³	1,5 mg/ m ³	immediately dangerous to health

8.3 Recommended personal protection:

8.3.1 Respiratory protection:

If the formaldehyde concentration in the working area reaches the TLV value, use the protective mask having the appropriate filter for gas formaldehyde.

8.3.2 Hand protection:

Use rubber gloves.

8.3.3 Eye protection:

Use safety glasses.

8.3.4 Skin protection:

Use complete working overalls.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1	Appearance:	Light brown colour briquette, solid
9.2	Odour:	Irritant, characteristic
9.3	pH (10% solution):	3 - 7 (water suspension at 10%)
9.4	Boiling point/interval:	N.A.
9.5	Melting point/interval:	170 at 172°C (with product)
9.6	Flash point:	93°C (open cup), 71°C (closed cup)
9.7	Inflammability (solid, gas):	N.D.
9.8	Self-inflammability:	300°C
9.9	Explosion danger (limits):	73,0 % v/v in the air
9.10	Comburent properties:	None
9.11	Steam pression:	1,2 mm Jg at 20°C; 60 mm Hg at 40°C
9.12	Density:	Relative density 0,63 Kg/dm ³
9.13	Hydrolysis rate (evaluation):	it does not occur. The compound depolymerises at 180-200°C discharging Aldehyde.
9.14	Oil diluent liposolubility:	N.D.
9.15	Self-ignition temperature:	424°C

10. STABILITY AND REACTIVITY

10.1 Stability:

The mixture containing Formaldehyde is stable.

10.2 Conditions to be avoided:

Stocking temperatures superior to 40°C - Sparks, flames.

10.3 Materials to be avoided:

Sodium hydroxide and other alkalis, acids, amines, phenols, oxygen, hydrogen, peroxide and other strong oxidizing agents in general. Reaction also with copper salts, iron and silver.

10.4 Dangerous decomposition products:

Combustion: Carbon monoxide

Thermic decomposition: Gas formaldehyde

11. TOXICOLOGICAL INFORMATION

11.1 Harmful effects to health:

TLV (gas formaldehyde) i ppm

11.2 Mouse LD50 acute oral toxicity:

> 670 mg/kg

11.3 Rabbit LD50 acute skin toxicity:

> 2000 mg/kg

11.4 Mouse LC50 acute inhalation toxicity

1,1 mg/litre; 4 h

11.5 Sensitization:

The cutaneous dermatitis is caused by the skin sensitization to formaldehyde and to its consequent irritating action.

11.6 Cancerogenesis:

There are no definitive data.

11.7 Mutagenesis:

There are no definitive data.

11.8 Reproductive toxicity:

There are no definitive data.

11.9 Narcosis:

N.A.

11.10 Other data:

N.A.

12. ECOLOGICAL INFORMATION

Paraformaldehyde depolymerises very slowly in cold water to produce formaldehyde solutions. Formaldehyde is easily biodegradable in sufficiently diluted concentrations. Concentrations between 50 and 200 mg/l in water injures the upper aquatic life (guppies). Concentrations between 1-2 mg/l prevent bacteria, algae and other microorganisms (E. coli, Scenedesmus) from growing.

13. INFORMATION ABOUT HOW TO DISPOSE OF THE PRODUCT

13.1 Product elimination:

Small quantities coming from analytical checks can be directly eliminated in the sewer by diluting them beforehand with a lot of water.

13.2 Instructions about how to eliminate residual products:

The product has to be eliminated according to the local or national instructions in force about how to eliminate industrial residual products.

14. INFORMATION CONCERNING TRANSPORT

14.1 Information about transport:

Proper shipping name: Paraformaldehyde

UN or ID No.: UN2213

Class or Division (Subsidiary Risk) : 4.1

Packing group : III

15. INFORMATION ABOUT REGULATIONS

15.1 N°UE: N.D.

15.2 Product danger symbol: Xn (Saint Andrea cross with Xn symbol)

15.3 Toxicity classification: Noxious

15.4 R and S sentences: R: 22-36/37 40-43; S: 16-22-25-26-61

15.5 Labelling: Label according to instructions of the Ministry of Health

15.6 To avoid risks to humans and the environment follow the instructions to use.

16. OTHER PIECES OF INFORMATION

16.1 Sanification has to be carried out by workers equipped with masks, gloves, protective clothing.

16.2 During use (sanification) keep the room closed.

16.3 Do not stop inside the room during sanification. Sanification has not to be carried out in the presence of people.

16.4 Ventilate after using (sanification) and before entering the rooms.

16.5 Keep away from children.

16.6 For explanations call +96227552915

Bibliography sources: MANUALE DI IGIENE (First Volume – publisher: Albano e Salvaggio)

Clinical Toxicology of Commercial Products: Fourth Edition (Baltimore)

Dangerous Properties of Industrial Materials: N. Irving SAX, reference 11.6/11.7/11.8 see

ministerial memorandum n. 57 of the 22nd of June 1983 of the Ministry of Health D.G. S.I.P. div. V, object: formaldehyde uses, risks linked to possible use methods.

N.A. = not applicable

N.D. = not definite

The pieces of information written here are given in good faith and correspond to our current knowledge. The fulfilment of the instructions contained in this safety card does not exempt the product user from respecting the legislative, regulatory and administrative texts concerning product, safety, hygiene and environment, for which he is completely responsible. In case of mixtures and combinations with other substances, be careful not to cause other risks.

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