

**1. Identification of the Substance/Mixture and of the Company/Firm**
**1.1. Product Identifier**

Trade name : **THERMONET FUMI**  
 ISS Code : **THER-FU**

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

Consumer, professional uses : **Descaling detergent for boiler combustion chambers**  
 Uses advised against : **All those not expressly specified in the label**

**1.3. Details of the Supplier on the Safety Data Sheet**

FACOT CHEMICALS snc - Via Crema, 44 - 26010 CAPRALBA (CR), Italy  
 phone 0373 450642 - fax 0373 450751 - e.mail: [info@facot.it](mailto:info@facot.it)  
 e-mail of referee: [msds@facot.it](mailto:msds@facot.it)

**1.4. Emergency telephone number**

+39 0373 450642 (from 08.30 to 12.30 and from 14.00 to 18.00 )

In section 16 of this data sheet are given the contact numbers of the Poison Centers in Italy open 24 hours a day.

**2. Identification of hazards**
**2.1. Classification of the substance or mixture**
**2.1.1 Classification within the meaning of Regulation (CE) No. 1272/2008**

Symbols : GHS05  
 Class codes and category of danger: : Skin Corr. 1A  
 Hazard statements codes : H314 - Causes severe skin burns and severe eye lesions.

**2.1.2 Adverse effects**

Corrosive product: causes severe skin burns and severe eye lesions.

**2.2. Elements of label**
**Labelling in accordance with Regulation (CE) no.**

1272/2008: Symbols : GHS05  
 Warning code : Danger  
 Hazard statements codes : H314 - Causes severe skin burns and eye damage.  
 Other hazard statements : Not classifiable  
 Safety phrases :


**DANGER**
**Prevention**

P260 - Avoid breathing dust/fumes/gas/mist/vapours/spray.  
 P264 - Wash your hands thoroughly after use.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.

**Reaction**

P301 + P330 + P331 – IF SWALLOWED: rinse mouth. DO NOT induce vomiting.  
 P303+P361+P353 – IN CASE OF CONTACT WITH THE SKIN (or with hair): take off immediately all contaminated clothing Rinse skin with water/shower.  
 P305 + P351 + P338 IF IN EYES: rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.  
 (P310) - Immediately call a POISON CENTER or doctor/physician.

Contains: Potassium hydroxide

**2.3. Other hazards**

No further data available.

**3. Composition/information on ingredients**
**3.1. Substances**

Not relevant

**3.2. Mixtures**

Refer to point 16 for the full text of risk phrases and hazard statements.

Substance	Concentration	Classification	CAS	EINECS	REACH
(2-methoxymethylethoxy)propanol	> 1 ≤ 3%	Substance with exposure limits in the working environment	34590-94-8	252-104-2	01-2119450011-60
Potassium hydroxide	> 1 ≤ 3%	Acute Tox. 4, H302; Skin Corr. 1A, H314	1310-58-3	215-181-3	01-2119487136-33
2,2'-iminodiethanol	> 0,1 ≤ 1%	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Dam. 1, H318; STOT RE 2, H373	111-42-2	203-868-0	01-2119488930-28

**4. First aid measures**
**4.1. Description of first aid measures**
**Inhalation:**

Move the victim away from the contaminated area and let him/her rest in a well ventilated area. If you feel unwell seek medical advice.

**Direct contact with the skin (of the pure product):**

Remove contaminated clothing. Wash with tap water the areas of the body that have come into contact with the product, and also the nearby areas; rinse thoroughly.

**Direct contact with the eyes (of the pure product):**

Rinse immediately and thoroughly for at least 15 minutes with tap water keeping the eyes open; then protect your eyes with sterile pad or a clean, dry cloth. SEEK MEDICAL ADVICE. Do not use eye drops or ointments without specific advice from your physician.

**Ingestion:**

Rinse your mouth and drink plenty of water. If you feel unwell seek medical advice.

**4.2. Main symptoms and effects, both acute and delayed**

No data available

**4.3. Indication of whether there is a need to consult a doctor immediately and special treatments**

See point 4.1 Description of first aid measures.



**5. Fire fighting measures**

**5.1. Extinguishing media**

**Suitable extinguishing media**

Chemical powder, foam, water spray, carbon dioxide, depending on the materials involved in the fire.

**Extinguishing means to avoid**

Direct water jets.

**5.2. Special dangers arising from the substance or mixture**

None known.

**5.3. Recommendations for firefighters**

Use protective clothing for the respiratory tract, the eyes and the skin. The water spray can be used to disperse the vapors and protect the people involved in the extinction. It is also recommended to use breathing apparatus, especially if you work indoors in poorly ventilated spaces and in any case if you use halogen-based extinguishers. Wear protective devices specific to firefighters.

**6. Accidental release measures**

**6.1. Personal precautions, protective equipment and procedures in case of emergency**

Move away from the area surrounding the spill or leak. Do not smoke.

**For those who intervene directly**

Given the structure of the preparation, leakages of material in amounts that require special measures are not foreseen.

**Precautionary measures addressed to individuals:**

Wear protective equipment. Move away unprotected persons.

**6.2. Environmental precautions**

Contain the leaks. Prevent the product from flowing into sewer systems, surface waters or groundwater and soil. If the product has flowed in large amounts in a water course or has contaminated soil or vegetation, contact the authorities.

**6.3. Methods and materials for containment and remediation**

Collect the product for disposal. After collection, wash with plenty of water the area and the materials involved preventing that waste materials from penetrating into sewers, surface waters or groundwater and soil.

**6.4. Reference to other sections**

Refer to points 8 and 13 for further information

**7. Handling and storage**

**7.1. Precautions for safe handling**

Normal precautions in handling chemicals; operate in such a way as to avoid contact and inhalation. Do not smoke, eat, do not drink during handling.

**7.2. Conditions for the secure storage, including any incompatibility**

Store in the original packaging in a cool, dry place. Do not expose to direct sunlight. Keep containers close when not using the preparation.

**7.3. Specific end uses**

Data not available.

**8. Exposure controls/personal protection**

**8.1. Control parameters concerning the substances contained**

(2-methoxymethylethoxy)propanol	TLV/TWA 100 ppm=606 mg/m <sup>3</sup>	TLV/STEL 150 ppm/909 mg/m <sup>3</sup>	(ACGIH/2014)
Potassium hydroxide	TLV :2 mg/m <sup>3</sup> (ceiling value) (ACGIH 2000).		
2,2'-iminodiethanol	TLV: 2 mg/m <sup>3</sup> (skin) (ACGIH 2002)	MAK: carcinogenicity Class: 3A; Sh, H (2002)	

**8.2. Exposure controls**

**Personal protection measures**

- a) **Eye/ face protection**  
Use goggles with side shields according to EN 166. Emergency eye wash and shower equipment must be available. b)
- b) **Skin protection**
  - i) **Hand protection**  
We recommend waterproof safety gloves (neoprene, rubber) in accordance with EN374-1, EN374-2 and EN374-3. Depending on the time of contact, use gloves with suitable PI (Permeation Index)
  - ii) **Other**  
Avoid direct contact with the skin.
- c) **Respiratory protection**  
Operate in suitably ventilated areas. If dust is generated in the area, wear dust masks (FFP1/FFP2) compliant with EN140.
- d) **Thermal hazards**  
Avoid exposure to naked flames.

**Checks of the environmental exposure**

Avoid release to the environment

**9. Physical and chemical properties**

**9.1. Information on the physical and chemical properties**

Physical and chemical properties	Value
Appearance	Yellow liquid
Odour	Characteristic
Olfactory threshold	Not available
pH at 20°C	12.0 ± 0.2
Melting/freezing point	Not available
Boiling point/range	Not available
Flash point	Non-flammable



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Evaporation rate	Not available
Flammability (solid/gas)	Not relevant
Upper/lower flammability limit	Not relevant
Vapor pressure (mmHg)	Not available
Vapor density	Not available
Density at 20°C	1.050 ± 0.010 g/cm <sup>3</sup>
Solubility	Soluble in polar solvents
Solubility in water	Complete
Partition coefficient: n- octanol/water	Not available
Self-ignition temperature	Not relevant
Decomposition temperature	Not available
Viscosity at 100°C	Not relevant
Explosive properties	Not available
Oxidizing properties	Not available

**9.2. Other Information**

No data available.

**10. Stability and reactivity**
**10.1. Reactivity**

Under normal conditions of use and storage no reactivity has been noted.

**10.2. Chemical Stability**

Stable under normal conditions of use and storage.

**10.3. Possibility of dangerous reactions**

None under recommended conditions of use.

**10.4. Conditions to avoid**

None known.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

Under normal conditions it does not decompose.

**11. Toxicological information**
**11.1. Information on toxicological effects**

ATE(mix) oral	=	35.714.3 mg/kg
ATE(mix) dermal	=	0.0 mg/kg
ATE(mix) inhal	=	0.0 mg/l/4 h

a) Acute toxicity	:on the basis of available data, the classification criteria are not met
b) corrosion / irritation of the skin	:causes severe skin burns
c) severe ocular lesions / irritation	:causes serious eye damage.
d) of the respiratory tract or the skin	:on the basis of available data, the classification criteria are not met
e) Germ cell mutagenicity	:on the basis of available data, the classification criteria are not met
f) Carcinogenicity	:on the basis of available data, the classification criteria are not met
g) Reproductive toxicity	:on the basis of available data, the classification criteria are not met
h) Specific target organ toxicity (STOT) single exposure:	:on the basis of available data, the classification criteria are not met
i) Specific target organ toxicity (STOT) repeated exposure:	:on the basis of available data, the classification criteria are not met
j) Risk of aspiration	:on the basis of available data, the classification criteria are not met

**(2-methoxymethylethoxy)propanol**

Oral LD50 (rat) (mg/kg body weight)	= 5000
LD50 Skin (rat or rabbit) (mg/kg body weight)	= 2000

**Potassium hydroxide**
**ROUTES OF EXPOSURE**

: The substance can be absorbed into the body by inhalation and ingestion.

**RISKS BY INHALATION**

: Evaporation at 20° C is not relevant; a harmful concentration of particles dispersed in the air can be reached quickly.

**EFFECTS OF SHORT TERM EXPOSURE**

: Corrosive. The substance is very corrosive to the eyes the skin and the respiratory tract. Corrosive if swallowed. Inhalation of substance aerosol substance may cause pulmonary edema (see Notes).

**EFFECTS OF REPEATED OR LONG-TERM EXPOSURE**

: Repeated or prolonged contact may cause dermatitis.

**ACUTE RISKS/ SYMPTOMS**

INHALATION	Corrosive. A burning sensation. Sore throat. Cough. Breathing difficulties. Shortness of breath. Symptoms may be delayed (see Notes).
SKIN	Corrosive. Redness. Pain. Severe Skin burns. Blisters. EYES Corrosive. Redness. Pain. Blurred vision. Severe deep burns.
INGESTION	Corrosive. A burning sensation. Abdominal pain. Shock or collapse.
NOTES	The exposure limit value must not be exceeded in any moment of occupational exposure. Usually, the symptoms of pulmonary edema appear only after a few hours and are aggravated by physical effort. The patient must rest and be kept under medical observation.

**2,2'-iminodiethanol**
**ROUTES OF EXPOSURE**

: The substance can be absorbed into the body by inhalation and ingestion.

**RISKS BY INHALATION**

: A harmful contamination of the air will not be reached or rather slowly through evaporation of the substance at 20°C.

**EFFECTS OF SHORT TERM EXPOSURE**

: The substance is corrosive to the eyes.



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## EFFECTS OF REPEATED OR LONG-TERM EXPOSURE

: Repeated or prolonged contact may cause skin sensitization.  
The substance may have effects on the liver and kidneys.

## ACUTE RISKS/ SYMPTOMS

EYES Redness. Pain. Severe deep burns.  
INGESTION Abdominal pain. A burning sensation.  
NOTES DO NOT take home work clothes.

**12. Ecological Information****12.1. Toxicity**

Data not available. Use according to good working practices and dispose of carefully.

**12.2. Persistence and degradability**

Data not available.

**12.3. Potential for bioaccumulation**

Data not available.

**12.4. Mobility in ground**

Data not available.

**12.5. Results of PBT and vPvB evaluation**

The mixture contains NO substances classified as PBT/vPvB pursuant to Regulation (CE) 1907/2006, Annex XIII

**12.6. Other adverse effects**

Data not available.

**13. Disposal Considerations****13.1. Methods of waste treatment**

Do not reuse empty containers. Dispose of waste in accordance with current regulations. Any waste should be disposed of in accordance with existing regulations by contacting authorized companies.

**14. Transport Information****14.1. UN Number**

1719

Any ADR exemption (by affixing the label to the side) if the following characteristics are met: Combined packaging: inner packing 5 L pack of 30 Kg

Inner packaging secured in trays with shrink or extensible film: inner package 5 L pack of 20 Kg

**14.2. ONU shipping name**

CAUSTIC ALKALINE LIQUID N.A.S. (Potassium hydroxide, 2,2'-iminodiethanol)

**14.3. Danger Classes connected to the transport**

Class : 8  
Label : 8  
Code of restriction in tunnels. : E  
Limited amounts : 5 L  
EmS : F-A, S-B

**14.4. Packaging group**

III

**14.5. Dangers for the environment**

Product dangerous to the environment : : NO  
Sea contaminant : NO

**14.6. Special precautions for users**

These goods must be transported by vehicles authorized to the carriage of dangerous goods according to the requirements of the current edition of the A.D.R. agreement and applicable national regulations.

Products should be transported in their original packaging and in any case in packages that are made from materials resistant to their content and unlikely to cause dangerous reactions with it. People loading and unloading dangerous goods must be trained on all the risks deriving from the substance and on all actions to be taken in the event of emergencies.

**14.7. Bulk transport according to Annex II of MARPOL 73/78 and the IBC code**

Transport in bulk not provided

**15. Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture Legislative****Decree 09/04/208 n° 81 - TITLE IX Chapter II**

It does not contain carcinogens pursuant to Art.234 .

In order to use this product, the employer must carry out the "Risk assessment" according to the provisions of Leg. Decree April 9, 2008 No 81. Workers exposed to this chemical agent must not be subjected to health surveillance if the outcome of the risk assessment shows that, in relation to the type and quantity of a dangerous chemical agent and the mode and frequency of exposure to this agent, there is only a "moderate risk" for health and safety of workers and that the measures provided for in the same Decree are sufficient to reduce the risk.

**Law Decree of Government no. 52, dated 03 /02/1977**

(Implementation of Directive 92/32/CEE on classification, packaging and labelling of dangerous substances).

**Law Decree of Government no. 65, dated 14/03/2003**

(Implementation of Directives 1999 /45/CE and 2001/60/CE relating to the classification, packaging and labelling of dangerous preparations).

**Law Decree of Government no. 25, dated 02/02/2002**

(Implementation of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at workplace).

**DM of 26/02/2004**

(Definition of a first list of indicative occupational exposure limit values for chemical agents).

**DM of 03/04/2007**

(Implementation of Directive No. 2006/8/CE of the Commission dated January 23, 2006, amending, to adapt them to technical progress, Annexes II, III and V of Directive 1999 /45/CE of the European Parliament and of the Council on the harmonization of laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations).



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**Regulation (CE) no. 1907/2006 Of the European Parliament and of the Council dated December 18, 2006**

Concerning the registration, evaluation, authorisation and restriction of chemicals (REACH), establishing a European agency for chemical substances, amending Directive 1999/45/CE and repealing Regulation (EEC) n. 793/93 Of the Council and the Regulation (CE) no 1488/94 Of the Commission and the Council Directive 76/769/EEC, the directives of the Commission 91 /155/CEE , 93 /105/CE and

**Regulation (CE) no. 1272/2008 Of the European Parliament and of the Council dated December 16, 2008**

With regard to classification, labelling and packaging of substances and mixtures, amending and revoking Directive 67/548/EEC and 1999 /45/CE and amending Regulation (EC) no. 1907/2006. 1907/2006.

**Regulation (CE) no. 790/2009 Of the Commission dated August 10, 2009**

Amending, for the purposes of adaptation to technical and scientific progress, of Regulation (CE) n. 1272/2008 of the European Parliament and The Council on classification, labelling and packaging of substances and mixtures.

**15.2. Chemical Safety Assessment**

Chemical safety assessment not provided.

**16. Other Information****16.1. Other Information**

Description of hazard phrases set out in point 3

H314 = Causes severe skin burns and severe ocular

lesions. H315 = Causes skin irritation

H318 = Causes serious eye damage

H373 = It may damage the organs in case of prolonged or repeated exposure.

Classification based on the data of all the components of the mixture

If necessary, below are the telephone numbers active 24 hour 24 of some poison centres: ([www.salute.gov.it/servizio/documenti/centri\\_antiveleni.pdf](http://www.salute.gov.it/servizio/documenti/centri_antiveleni.pdf))

([www.salute.gov.it/servizio/documenti/centri\\_antiveleni.pdf](http://www.salute.gov.it/servizio/documenti/centri_antiveleni.pdf))

FIRENZE	Centro Antiveleni di Firenze ( <a href="http://www.antiveleni.altervista.org">www.antiveleni.altervista.org</a> )	055	7947819
GENOVA	Servizio Antiveleni	010	56361245
MILANO	Centro Antiveleni ( <a href="http://www.centroantiveleni.org">www.centroantiveleni.org</a> )	02	66101029
NAPOLI	Centro Antiveleni Ospedale Cardarelli ( <a href="http://www.ospedalecardarelli.it/ospedale/centro-anti-veleni">www.ospedalecardarelli.it/ospedale/centro-anti-veleni</a> )	081	7472870
PADOVA	Servizio Antiveleni	049	8275078
PAVIA IRCCS	Fondazione S.Maugeri ( <a href="http://www.cavpavia.it">www.cavpavia.it</a> )	0382	24444
ROMA	Centro Antiveleni Policlinico Gemelli ( <a href="http://www.tox.it">www.tox.it</a> )	06	3054343
ROMA	Centro Antiveleni Università "La Sapienza" (w3.uniroma1.it/cav_cartella)	06	49970698
TORINO	Centro Antiveleni	011	6637637

## MAIN BIBLIOGRAPHIC SOURCES

ACGIH - American Conference of Governmental Industrial Hygienists

IARC - International Agency for Research on Cancer

IPCS - International Programme on Chemical Safety (Cards)

NIOSH - Registry of toxic effects of chemical substances (1983)

OSHA - European Agency for Safety and Health at Work

PHATOX - Pharmacological and Toxicological Data and Information

Network WHO - World Health Organization

Safety data sheet as per Regulation (UE) 2015/830 of 29 May 2015 and subsequent amendments

**This safety data sheet fully replaces all previous versions.**

The information in this safety data sheet were obtained using the best information available on the date of revision specified herein. Neither the owner Company nor the subsidiary companies will accept complaints arising from improper use of the information given herein or by improper use of the product. Pay particular attention when using the preparation because an improper use may increase the hazard.

