

CHAPTER I - INTRODUCTION

About this manual

In thanking you for the trust you have shown us in buying one of our products, we wish to suggest that you read the provided instruction booklets very carefully before using the oven.

This manual contains all the information you may need for a proper use and maintenance of the oven. The purpose of this manual is to let the user take every step and to arrange all the means, human resources and materials necessary for a safe and lasting use of the oven.

This manual must be handed over to the person in charge of the use and of the regular maintenance of the appliances, who is required to keep it in a safe, dry and suitable place, available for consultation and for routine oven maintenance. In the event the oven is sold, the handbook must always accompany the appliance.

This manual is also addressed to the operators for installation and extraordinary maintenance service..

The intended purpose and configurations of the provided appliances are the only ones allowed by the manufacturer: do not attempt to use the appliances in any other way.

The intended purpose indicated is valid only for appliances in a perfect state of repair in terms of construction, mechanics and engineering.

The Manufacturer declines any and all responsibility due to improper use or operation by untrained personnel, from changes and/or repairs performed by the user or by unauthorized personnel, and from use of non-original spare parts or spare parts that are not specific for the oven model.

The manual must be kept until the final accurate disposal of the appliance, it must be kept in good conditions and available for consultation all the time. In case of lost or damage of this manual, an extra copy can be provided directly by the Manufacturer or the retailer.



The pages below must always accompany the electromechanical oven manual to complete installation, operation and maintenance instructions.



In case of misunderstandings in the following translation, please refer to the Italian version.

CAPITOLO II - INSTALLATION AND MAINTENANCE

Installation/replacement of vessels

Unscrew the top with the stem tube (**A-Fig. 1**), dispose of the vessel in compliance with the standards in force in the countries where the oven is used, holding the top with the stem tube. Unscrew the top from the full vessel, and screw the one with the stem tube onto the new vessel.

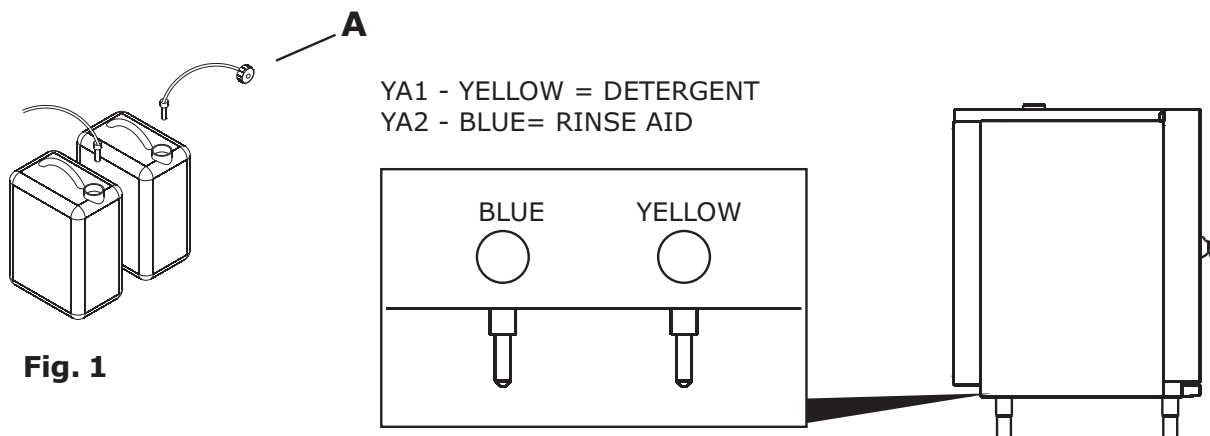


Fig. 1



WARNING!

The detergent contemplated by the manufacturer is corrosive!
Please carefully read the safety data sheet before using it.



WARNING!

The length of the stem tube inserted into the top is calibrated!! Do not displace it for any reason.

Troubleshooting

	Possible causes
The chemical agent does not flow out or insufficient pressure	<ul style="list-style-type: none"> • Chemical agent run out. • Vessel top too tight. • Lift pump damaged. • Leakages on pipes. • Nozzles clogged.
Water does not flow out or insufficient pressure	<ul style="list-style-type: none"> • Leakages on pipes. • Nozzles clogged. • Water flow solenoid valve damaged. • No flow from the water system.
Water leakage from the door	<ul style="list-style-type: none"> • Seal gasket damaged. • Door not perfectly closed.

CHAPTER III - OPERATING INSTRUCTIONS

DIGITAL MODELS WITH PROGRAMS

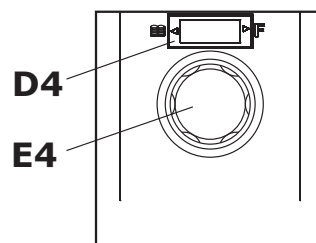
Digital ovens with programs feature three different fully automatic cleaning types. They are different in terms of duration and repetition of the various phases, according to the desired cooking chamber cleaning.

Then you may select a simple rinsing cycle with cold water.

Selection of a cleaning cycle

In order to select a cleaning cycle you must enter the program menu by pressing the knob **E4**. When the display **D4** and the LEDs around the knob start flashing, by rotating **E4** you can browse the list of the oven programs and choose the desired one. The first four choices are the cleaning cycles identified as:

CL01	SHORT CLEANING CYCLE
CL02	MEDIUM CLEANING CYCLE
CL03	LONG CLEANING CYCLE
rInS	RINSING CYCLE



Once you have chosen the cleaning cycle to clean the cooking chamber, all you need to do is to confirm it by pressing the program knob **E4**.

Start and end of a cleaning cycle

Once you have selected the desired cleaning cycle, simply press the **Start/Stop** key to start the cycle.

Since the cleaning cycles are fully automatic, the oven will go through all of its phases in an autonomous way if the cooking chamber temperature is lower than 50°C upon start; If this is not the case, the only operation which is required from the user is to open the door for the cool down, and then to close it again to start the selected cleaning cycle.

The cool-down is carried out as a precautionary measure in order not to start cleaning programs with too high temperatures.

An acoustic signal will be heard at the end of the complete cleaning cycle, and on the temperature display the message "cleaning over" will appear.

Now, performing any operation you can go back to the cooking mode, both manual and programmed mode.



WARNING!

Remove any baking trays, racks or any other food containers from the cooking chamber before starting a cleaning cycle.



WARNING!

Do not open the door during the cleaning cycle.

Interruption of a cleaning cycle

The user can decide to stop the started cleaning cycle at any time.

This can be done by holding down the program knob **E4** for 5 seconds. After this, the oven will perform a rinsing cycle in automatic mode.

This is done to guarantee a safe condition of the oven so that it can be used immediately after intentionally stopping a cleaning cycle underway.

Special cases

Power supply failure

In case of electric power failure during a cleaning cycle of the oven for any reason, the current program is resumed from the point where it had been interrupted as soon as power is restored.

Accidental opening of the door

During a cleaning cycle, the door should never be opened, but if this is done by mistake, an acoustic signal and an indication on the temperature display remind the user to immediately close the door.

When the door is closed, the current cleaning cycle is resumed from the point where it had been interrupted.

Time and consumption table

Cleaning type	Duration	Detergent	Rinse aid	Water
CL01	54min	0,3 l	0,3 l	60 l
CL02	1h	0,6 l	0,3 l	60 l
CL03	1h30min	1,2 l	0,3 l	90 l
rInS	7min	/	/	30 l

PROGRAMMABLE MODELS WITH LCD DISPLAY

The programmable ovens with LCD display can be equipped with two types of cleaning, the former in semi-automatic version, and the latter in automatic version.

The semi-automatic cleaning requires the user's intervention in a guided way in some phases of the cycle underway, whereas automatic cleaning performs all the contemplated cycle phases in full autonomy.

Lavaggio semi-automatico "Easy Cleaning"

Semi-automatic cleaning cycles "Easy Cleaning" are divided into two programs.

The differences between the two programs are the duration and the repetition of phases, and therefore the quality of the desired cooking chamber cleaning.

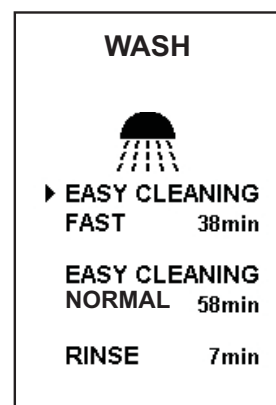
It is possible to start even just a rinsing cycle with cold water.

The "Easy Cleaning" cycles are thus divided as follows:

EASY CLEANING FAST	SHORT CLEANING CYCLE
EASY CLEANING NORMAL	MEDIUM CLEANING CYCLE
RINSE	RINSING CYCLE

Selection of a cleaning cycle

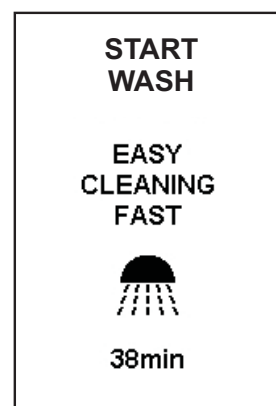
To select a cleaning cycle you must select the "cleaning" item from the main video page; now you will enter the corresponding menu, and from here it is possible to choose the program to run, among fast, plus or rinse, by selecting it rotating the control knob and pressing it to confirm.



Start and stop of a cleaning cycle

After the desired cleaning cycle is selected by pressing the control knob, a video page will be displayed where the user is asked whether he/she wants to start the selected program.

Then simply press the **Start/Stop** key to start the cleaning cycle.



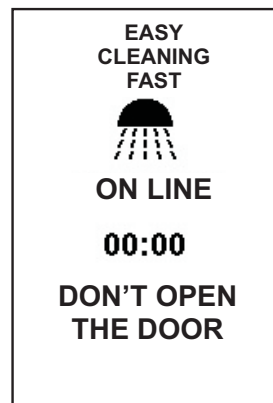
WARNING!

Remove any baking trays, racks or any other food containers from the cooking chamber before starting a cleaning cycle.

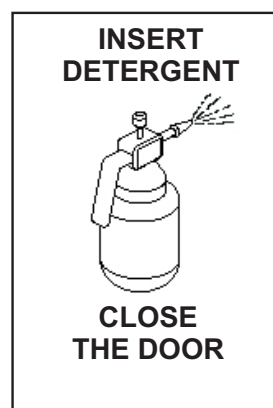
Cool-down is carried out as a precaution in order not to start cleaning programs at too high temperatures.

 **WARNING!**
Do not open the door during the cleaning cycle.

During the execution of the cleaning cycle, a video page will be displayed, where it is possible to read the time to completion of the current program.

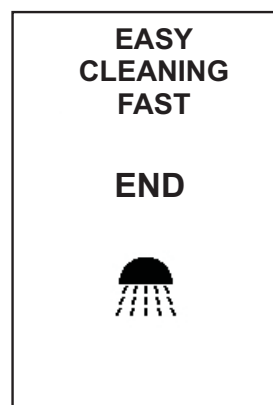


All the EasyCleaning programs, since they are semi-automatic, will require the user to add the necessary detergent when the cycle contemplates this. This is done after the display of a video page and of an associated acoustic signal.



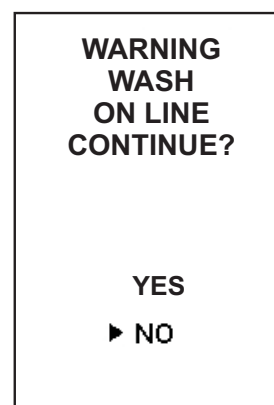
 **WARNING!**
During manual addition of the detergent, use appropriate protections to avoid contact with the chemical agent.

At the end of the complete oven cleaning cycle, an acoustic signal will be heard and the message "cleaning over" will appear on the display.
Now, by performing any operation, it is possible to go back to the cooking mode, both manual and programmed mode.



Interruption of a cleaning cycle

The user can decide to interrupt the started cleaning cycle at any time. This is done through the forced opening of the door; the oven will automatically stop the cleaning cycle underway, and a video page will be displayed, where it is possible to choose whether to continue the program underway or to interrupt it.



WARNING!

Do not open the door during addition of chemical agents and rinsing.

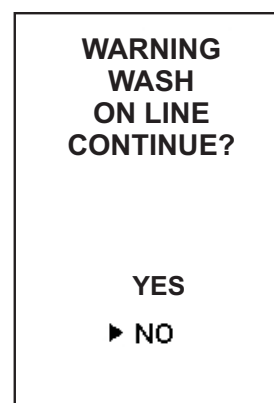
If the user decides to stop the program, he/she will automatically be required to close the door, and a rinsing cycle will be executed.

This is done for a safe oven condition, so that it can be used immediately after intentionally stopping a cleaning underway.

Special cases

Power supply failure

If during a cleaning cycle the oven power supply is cut off for any reason, once it is restored a video page will be displayed, where it is possible to choose whether to continue with the program underway or to interrupt it.



If the user decides to stop the program, he/she will automatically be required to close the door, and a rinsing cycle will be executed.

On the other hand, if the user decides to continue with the previously interrupted cleaning, this is resumed from the phase where the power supply failure occurred.

Accidental door opening

During any cleaning cycle the door should never be opened, but if this is done by mistake, the same video page as in the case of a power supply failure will appear, with the same option to continue the previously interrupted cleaning cycle.

Time and consumption table

Cleaning type	Duration	Water
EASY CLEANING FAST	38min	30 l
EASY CLEANING NORMAL	58min	60 l
RINSE	7min	30 l

Automatic cleaning "Cleaning"

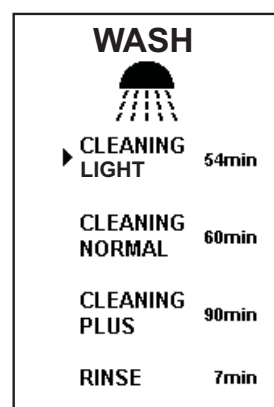
Automatic cleaning cycles "Cleaning" are divided into three programs. The difference between these programs lies in duration and in the repetition of phases, and therefore in the desired cooking chamber cleaning quality.

It is possible to start even just a rinsing cycle with cold water. The "Cleaning" cleaning cycles are thus divided as follows:

CLEANING LIGHT	SHORT CLEANING CYCLE
CLEANING NORMAL	MEDIUM CLEANING CYCLE
CLEANING PLUS	LONG CLEANING CYCLE
RINSE	RINSING CYCLE

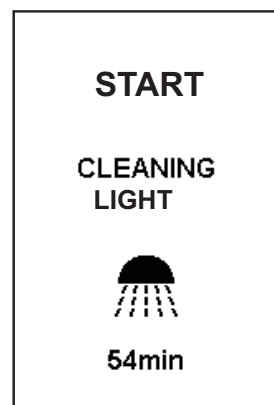
Selection of a cleaning cycle


To select a cleaning cycle you must select the "cleaning" item from the main video page; now you will enter the corresponding menu, and from here it is possible to choose the program to run, among fast, plus or rinse, by selecting it rotating the control knob and pressing it to confirm.



Start and stop of a cleaning cycle

Once you have selected the desired cleaning cycle by pressing the control knob, a video page will be displayed, where the user is asked whether he/she wants to start the selected program.

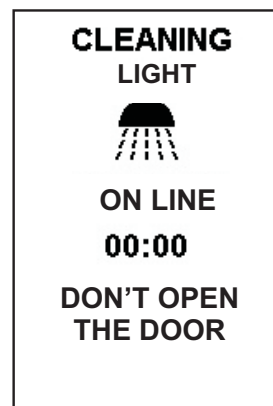


 **WARNING!**
Remove any baking trays, racks or any other food containers from the cooking chamber before starting a cleaning cycle.

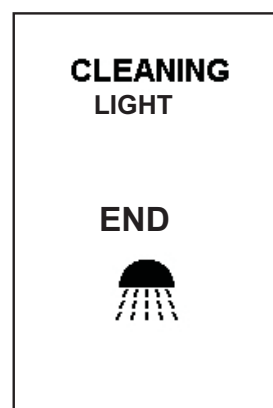
The cool-down is carried out as a precautionary measure in order not to start cleaning programs with too high temperatures.

 **WARNING!**
Do not open the door during the cleaning cycle.

During the execution of the cleaning cycle, a video page will be displayed, where it is possible to read the time to completion of the current program.

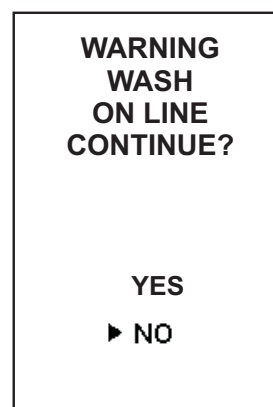


At the end of the complete oven cleaning cycle, an acoustic signal will be heard, and the message "cleaning over" will appear on the display. Now, by performing any operation you can go back to the cooking mode, both manual and programmed mode.



Interruption of a cleaning cycle

The user can decide to interrupt the started cleaning cycle at any time. This is done through the forced opening of the door; the oven will automatically stop the cleaning cycle underway, and a video page will be displayed, where it is possible to choose whether to continue the program underway or to interrupt it.



WARNING!

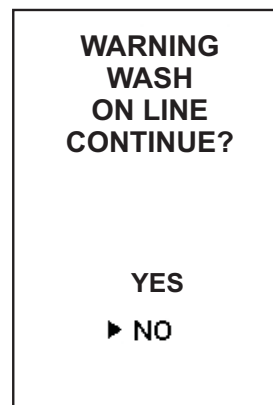
Do not open the door during addition of chemical agents and rinsing.

If the user decides to stop the program, he/she will automatically be required to close the door, and a rinsing cycle will be executed. This is done for a safe oven condition, so that it can be used immediately after intentionally stopping a cleaning underway.

Special cases

Power supply failure

If during a cleaning cycle the oven power supply is cut off for any reason, once it is restored a video page will be displayed, where it is possible to choose whether to continue with the program underway or to interrupt it.



If the user decides to stop the program, he/she will automatically be required to close the door, and a rinsing cycle will be executed.

On the other hand, if the user decides to continue with the previously interrupted cleaning, this is resumed from the phase where the power supply failure occurred.

Accidental opening of the door

During any cleaning cycle the door should never be opened, but if this is done by mistake, the same video page as in the case of a power supply failure will be displayed, with the same option to continue the previously interrupted cleaning cycle.

Time and consumption table

Cleaning type	Duration	Detergent	Rinse aid	Water
CLEANING LIGHT	54min	0,3 l	0,3 l	60 l
CLEANING NORMAL	1h	0,6 l	0,3 l	60 l
CLEANING PLUS	1h30min	1,2 l	0,3 l	90 l
RINSE	7min	/	/	30 l

MATERIAL SAFETY DATA SHEET

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

1.1 Product identifier

Product name **FORTEFORNO**

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

Descrizione/utilizzo **OVEN/GRILL CLEANER**

2 Hazards identification

2.1 Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in Directives 67/548/EEC and 1999/45/EC and/or EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Danger symbols:

C

R phrases:

35 The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

2.2. Label elements

Hazard labeling pursuant to Directives 67/548/CEE and 1999/45/CE and subsequent amendments and supplements.



CORROSIVE

R35 CAUSES SEVERE BURNS.

S26 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

S28 AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER.

S36/37/39 WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

S45 IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

Contiene: SODIUM HYDROXIDE

2.3 Other hazards.

The product does not contain substances PBT or vPvB according to Regulation (EC) N. 1907/2006, Annex XIII.

3 Composition/information on ingredients.

3.1 Substance.

Information not relevant.

3.2 Mixture.

Description: The product is a mixture of substances classified as hazardous and non-hazardous. Hazardous substances and those whose concentration must be monitored at the workplace are listed below together with their hazard classification.

Hazard substances

Identification	Conc. %	Classification 67/548/CEE	Classification 1272/2008 (CLP)
SODIUM HYDROXIDE CAS. 1310-73-2 CE. 215-185-5 INDEX. 011-002-00-6 Reg. No. 01-2119457892	10 - 15	C R35	Skin Corr. 1A H314
ACID PHOSPHONIC POLYMER CAS. - CE. - INDEX. -	1 - 5	C R34	Skin Corr. 1B H314
ALCILIC ETHER OF CARBOXYLIC ACID CAS. - CE. -	1 - 5	XI R41, R38	Skin Corr. 1A H315, H318

NUM. REACH Polimer

T+ = Very Toxic(T+), T = Toxic(T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritant(Xi), O = Oxidizing(O), E = Explosive(E), F+ = Extremely Flammable(F+), F = Highly Flammable(F), N = Hazardous to Environment(N)

The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

Ingredients according to Regulation (EC) No 648/2004 less than 5 %

Anionic surfactants, phosphonates

4 **First aid measures.**

If you feel unwell seek medical advice if possible show the container or label or MSDS for this product.

4.1 **Description of first aid measures.**

Adopt the following general measures:

In case of CONTACT WITH EYES: remove contact lenses and wash immediately with plenty of water for at least 30/60 minutes holding the eyelids open. Get medical advice immediately.

In case of CONTACT WITH SKIN: remove contaminated clothing immediately and take a shower. Get medical advice immediately. Wash contaminated clothing separately before reuse.

In case of INHALATION: get medical advice immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration.

In case of INGESTION: get medical advice immediately. Never give anything by mouth to an unconscious person unless authorized by a doctor. Do not induce vomiting unless expressly authorized by a doctor.

PROTECTION OF RESCUERS: do not take any action that may involve any personal risk or without having received suitable training. Perform mouth-to-mouth can be dangerous to the rescuer. If there has been a substantial leakage the rescuer should wear protective gloves and prudently closed working clothes.

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

INGESTION: burns to mouth, esophagus, can cause internal perforation.

EYE CONTACT: burns to eyes. May cause ulceration of the conjunctiva and cornea.

SKIN CONTACT: Intense burns and penetrating ulcers in the skin.

INHALATION: Severe irritation of the respiratory tract.

See also section 11.

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

In case of health disorder seek medical advice and follow his directions. Do not give anything by mouth to an unconscious person. Always seek medical advice in case of doubt or when symptoms may arise even where not provided. Speaking with a doctor keep available the material safety data sheet or failing this, the label. In case of inhalation of decomposition products in a fire symptoms may be delayed. Keep the exposed person under medical surveillance for 48 hours

5 **Firefighting measures.**

5.1 **Extinguishing media.**

SUITABLE EXTINGUISHING MEDIA: The extinguishing media should be of the conventional type: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING MEDIA: None in particular.

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

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE Do not breathe combustion products (carbon oxides, toxic pyrolytic products, etc.).

5.3 **Advice for firefighters.**

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6 **Accidental release measures.**

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

FOR THOSE WHO DO NOT DIRECTLY INTERVENE: leave the area surrounding the spill or release. Do not smoke. Remove all sources of ignition (cigarettes, flames, sparks, etc.). Provide adequate ventilation. If vapors, dusts, fumes and aerosols form use respiratory protection. Consult an expert.

FOR THOSE WHO DIRECTLY INTERVENE: eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the area where the loss occurred. In the case of solid product prevent the formation of dust spraying the product with water if there are no contraindications. In case of dust dispersed in air or fumes use respiratory protection. Stop leakages if it is not dangerous. Do not handle damaged containers or spilled material unless wearing gloves and protective clothing. Refer to protective equipment recommended in Section 8. Provide adequate ventilation. Do not smoke. Evacuate persons not adequately equipped. Consult an expert.

6.2 **Environmental protections.**

The product must not penetrate into the sewer system or come into contact with surface water or ground water. If the product has escaped into a water course, into a drainage system, or has contaminated the ground or vegetation, notify the competent authorities immediately.

6.3 **Methods and material for containment and cleaning up.**

In case of:

SMALL SPILL

Recover most of the material. Absorb with a rag or inert material (sand, vermiculite, diatomaceous earth, Kieselghur, etc.). Place contaminated material in an appropriate container labeled and separated from other waste. Do not dispose of into drains. Disposal of contaminated material must be made in accordance with the provisions of Section 13. The solutions with alkaline pH must be neutralized before being sent to disposal.

LARGE SPILL

Contain the spill. If possible, cover drains and prevent the product flow into drains.

Recovery Draw product into a suitable container (made of material compatible with the product) and soak up any leaked product with absorbent inert material (sand, vermiculite, diatomaceous earth, Kieselguhr, etc.). Collect as much of the remaining material with non-sparking tools and place into a suitable labeled container and separated from other waste. Do not dispose of into drains. Disposal of contaminated material must be made in accordance with the

6.4. Reference to other sections.

Any information on personal protection and disposal is given in Sections 8 and 13.

7. Handling and storage.

7.1. Precautions for safe handling.

The staff handling chemicals should be instructed about the specific risks and the preventive and protective measures, even to cope with any emergency, pursuant to local regulations and laws. Handle the product after having consulted all other sections of this MSDS.

Fire prevention measures

Perform manipulation in a place equipped with the fire-fighting measures described in section 5.

Measures to prevent formation of dust and aerosols

Avoid formation of aerosols.

Incompatible substances or mixtures

Do not handle with incompatible materials and do not manipulate with objects that come into contact or which may come into contact with incompatible materials (for a list of incompatible materials see sub-section 10.5).

Measures for environmental protection

Avoid spills. If you can handle the product away from drains or after taking appropriate measures (coverage). Any spills on the floor can make it slippery.

Confining the washing water, avoiding contamination of drains, surface water, groundwater (risk of environmental contamination).

Advice on general occupational hygiene

Wear protective equipment specified in section 8. Avoid contact with skin, eyes and clothing. Do not breathe any vapors or mists. Avoid spills and improper handling that can cause leakage. Do not eat, drink or smoke while using the product. Wash hands, forearms and face after using the product.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed

7.2. Conditions for safe storage, including any incompatibilities.

Store the product in a place equipped with the fire-fighting measures described in section 5. Keep away from food, drink and animal feed. Store the product in closed, labeled containers, away from heat and open flame in a well-ventilated area with temperatures between +5 °C and +40°C. Do not store with incompatible materials (for a list of incompatible materials see sub-section 10.5). For any other conditions to be avoided refer to sub-section 10.4. Protect against solar radiation and the action of heat. Keep away from flammable substances. Ensure adequate supply of water to extinguish. Make sure there is adequate ventilation is using mechanical ventilation. Transport must be guaranteed in a workmanlike manner according to the height of the stack, the insurance of the containers to prevent them from falling and to mark them according to rules. Tanks and containers shall be equipped with waterproof containment tank built with suitable materials. The containers with incompatible chemicals must be spaced and equipped with separate containment tanks.

7.3. Specific end use.

The product is a special detergent for cleaning of industrial ovens and grills. The product can be applied either manually or by spraying with automatic system.

8. Exposure controls/personal protection.

8.1. Control parameters.

Description	Type	State	TWA/8h		STEL/15min	
			mg/m ³	ppm	mg/m ³	ppm
SODIUM HYDROXIDE (C) CEILING	TLV-ACGIH		2		2 (C)	

Recommended monitoring procedures: this product contains ingredient with exposure limits, personal monitoring may be required, workplace atmosphere to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protection equipment.

Appropriate engineering controls.

As the use of adequate technical equipment must always take priority over personal protection equipment, ensure good ventilation at the workplace through effective local aspiration or air vent. If these steps do not keep the concentration of the product below the exposure limit values in the workplace, wear suitable protection for the respiratory tract. During the use of the product refer to the label for hazards and other details.

Individual protection devices.

The personal protective equipment must comply with the regulations set forth below.

HAND PROTECTION

Protect hands with gloves suitable for chemicals category III (ref. Directive 89/686/EEC and standard EN 374 or other local regulation) such as rubber. Final selection of glove material the following aspects must be considered: degradation, breakage times and permeation. In the case of mixtures the resistance of protective gloves should be checked before use, as it can be unpredictable. Gloves have a time limit which depends on the exposure duration

EYES PROTECTION

Protect eyes with air tight goggles (ref standard EN 166). Provide an eye wash.

SKIN PROTECTION

Wear working clothes with long sleeves and safety shoes for professional use category III (ref. Directive 89/686/EEC and standard EN 344). Wash with soap and water after removing protective clothing. Provide an emergency shower.

RESPIRATORY PROTECTION

In case of exceeding the threshold value (if available) of one or more of the substances present in the product, referring to daily exposure in the workplace or to a fraction established by the company's prevention and protection service, wear a mask with filter type E or of the universal type, the class (1, 2 or 3) must be chosen in relation to the limit concentration of use (ref. standard EN 141).

The use of respiratory protective equipment, such as masks of the type described above, it is necessary in the absence of technical measures to limit worker exposure. The protection provided by masks is in any case limited.

In the case in which the substance in question is odorless or its olfactory threshold is higher than the relative exposure limit and in case of emergency, or when exposure levels are unknown or the concentration of oxygen in the workplace is less than 17% volume, wear a compressed air breathing apparatus open circuit (ref. standard EN 137) or fresh air hose breathing apparatus for use with full face mask, half mask or mouthpiece (ref. standard EN 138).

Environmental exposure controls.

The emission from ventilation or work process equipments should be checked to ensure they comply with local directives and legislation on environmental protection. In some cases fume scrubbers, filters or other engineering modifications to the process are required to reduce emissions to acceptable levels. Refer to local regulations for pollution of air, soil and water. For any further information please see also sections 6, 12 and 13.

9 Proprietà fisiche e chimiche.

9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali.

Appearance	liquid
Colour	pale yellow
Odour	typical
Odour threshold	N.A.
pH.	14
Melting or freezing point	N.A.
Initial boiling point	N.A.
Boiling range	N.A.
Flash point	> 60 °C.
Evaporation rate	N.A.
Flammability of solids and gasses	N.A.
Lower flammability limit	N.A.
Upper flammability limit	N.A.
Lower explosive limit	N.A.
Upper explosivity limit	N.A.
Vapour pressure	N.A.
Vapours density	N.A.
Specific gravity	1,300 Kg/l
Solubility	Water soluble
Partition coefficient: n-octanol/water	N.A.
Ignition temperature	N.A.
Decomposition temperature	N.A.
Viscosity	N.A.
Explosive properties	N.A.
Oxidizing properties	N.A.

9.2 Other information.

VOC (Directive 1999/13/CE) :	0
VOC (volatile carbon) :	0

10 Stability and reactivity.

10.1 Reactivity.

The product is alkaline and it reacts violently with strong and/or concentrated acids.

10.2 Chemical stability.

The product is stable in normal conditions of use and storage.

10.3 Possibility of hazardous reactions.

No hazardous reactions are foreseeable in normal conditions of use and storage. In contact with strong and/or concentrated acids may react violently.

10.4 Conditions to avoid.

Avoid contact with strong and/or concentrated acids. Avoid overheating, electrostatic discharge and all sources of ignition.

10.5 Incompatible materials.

Avoid contact with: carbon steel, aluminum, zinc, copper and its alloys, silicone. See also Section 7.

10.6 Hazardous decomposition products.

In case of thermal decomposition or in case of fire toxic decomposition products may be released.

11 Toxicological information.

11.1 Information on toxicological effects.

In the absence of experimental toxicological data on the product itself, the possible health hazards of the product were evaluated based on the properties of substances, according to the criteria laid down by the relevant legislation for the classification. Consider, therefore, the concentration of each substance dangerous possibly mentioned in Section 3, to assess toxicological effects resulting from exposure to the product.

SODIUM HYDROXIDE; CAS 1310-73-2

Acute toxicity.

LD50 (oral): > 500 mg/kg, rat

LD50 (dermal): > 1350 mg/kg, rabbit LC50

(inhalation): 4800 mg/kg/1h,mouse

Skin corrosion / irritation.

Corrosive (tested on rat)

Serious eye damages / eye irritation.

Corrosive (determined on rabbit eyes)

Respiratory or dermal sensitization. Not

sensitizing effect known

Germ cell mutagenicity.

No mutagenic effect known.

Carcinogenicity.

No carcinogenic effect known

Toxicity for reproduction

No toxic effect for reproduction known

Specific toxicity for target organs (STOT) single exposure.

No data available.

Specific toxicity for target organs (STOT) repeated exposure.

No data available

Aspiration hazard.

No data available

ACID PHOSPHONIC POLYMER; CAS N.A.

Acute toxicity.

LD50 (oral): > 2000 mg/kg, rat

LD50 (dermal): no data available LC50

(inhalation): no data available

Skin corrosion / irritation.

Corrosive to skin and mucosa (OECD404)

Serious eye damages / eye irritation.

Highly corrosive (OECD 405)

Respiratory or dermal sensitization.

Not sensitizing effect known

Germ cell mutagenicity.

No data available

Carcinogenicity.

No data available

Toxicity for reproduction

No data available

Specific toxicity for target organs (STOT) single exposure.

No data available.

Specific toxicity for target organs(STOT)repeated exposure

No data available

Aspiration hazard.

No data available

ALCILIC ETHER OF CARBOXYLIC ACID; CAS N.A.

Acute toxicity.

LD50 (oral): > 2000 mg/kg, rat

LD50 (dermal): no data available

LC50(inhalation):no data available

Skin corrosion / irritation.

Irritant to skin

Serious eye damages/eye irritation.

Risk of serious damages to eyes

Respiratory or dermal sensitization.

No data available

Germ cell mutagenicity.

No data available

12 **Ecological information.**

The following evaluation has been carried out on the basis of ecological data available for the individual ingredients and according to their amount using the calculation methods proposed by the European directives on the classification of dangerous preparations in their latest version.

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

12.1 **Toxicity.**

Acquatic toxicity

SODIUM HYDROXIDE; CAS 1310-73-2

LC50 (96h): 35 mg/l Fish

EC50 (48h): 40,4 mg/l Ceriodaphnia dubia

ACID PHOSPHONIC POLYMER; CAS N.A.

No data available

ALCILIC ETHER OF CARBOXYLIC ACID; CAS: N.A.

LC50 (96h): > 100 mg/l Fish

12.2 **Persistency and biodegradability.**

Regulation (CE) n. 648/2004 and 907/2006

The surfactants contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 and subsequent amendments on detergents. All data are held at the disposal of the competent authorities of the Member States and will be made, at their direct request or at the request of a detergent manufacturer to these authorities.

Comply with the limits for discharges imposed by local regulations.

12.3 **Bioaccumulative potential.**

The ingredients in this product have a low bio-concentration factor.

12.4 **Soil mobility.**

Given the complete solubility in water of the product the mobility in soil is very high.

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

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6 **Other adverse effects.**

Information not available.

13 **Disposal considerations.**

13.1 **Waste treatment methods.**

Reuse if possible. Must not be disposed of with household waste. Do not empty into drains. Any residual product should be disposed of according to applicable regulations turning to authorized companies. Operate in accordance with the provisions of Directive 2008/98/EC.

This product can not be established any number key for waste under the European Waste Catalogue (EWC) since the assignment is permitted only on the basis of the intended purpose and the use made by the consumer.

The waste key number must be arranged with an approved waste management which should be entrusted with the disposal, in compliance with national and local regulations.

The containers and packing materials contaminated with dangerous substances or preparations must be treated like the product and sent for recovery or disposal in compliance with local waste management regulations.

14 **Transport information.**

14.1 **UN number**

ADR-RID-ADN IMDG-IATA/IACAO: UN 1719

14.2 **UN proper shipping name**

ADR-RID-ADN:

IMDG-IATA/IACAO: CAUSTIC ALKALI LIQUID, N.O.S. (SODIUM HYDROXIDE, PHOSPHONIC ACID POLYMER)

14.3 **Transport hazard class(es)**

ADR-RID-ADN IMDG-IATA/IACAO: 8

14.4 **Packing group**

ADR-RID-AND-IMDG-IATA/IACAO: II

14.5 **Environmental hazards**

ADR-RID-AND -IATA/IACAO: NO

IMDG:

14.6 **SPECIAL PRECAUTION FOR USERS**

These goods must be transported by vehicles authorized to the carriage of dangerous goods according to the requirements in the current edition of the ADR And the applicable national regulations. The goods must be packed in their original, or in packagings in packagings made of materials resistant to their content and not likely to generate dangerous reactions. People loading and unloading dangerous goods must have received appropriate training about the risks deriving from these substances and the actions that must be taken in case of emergency situations. Please note that the securing of the load must be carried out according to the instructions in Section 7.5.7.1 of the ADR code.

ADR (tunnel code of restrictions): (E)

EMS number: F-A, S-B

14.7 **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code**

N.A.

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15 Regulatory information.

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

Seveso category. None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.

Point. 3

Substances in Candidate List (Art. 59 REACH).

Nessuna.

Sostanze soggette ad autorizzazione (Allegato XIV REACH).

None.

Healthcare controls.

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers health and safety are modest and that the 98/24/EC directive is respected. Ingredients according to Regulation (EC) No 648/2004 less than 5% anionic surfactants, phosphonates.

International norms.

Directive 67/548/CEE and following modifications and amendments

Directive 1999/45/CE and following modifications and amendments

Regulation (CE) 1907/2006 (REACH)

Regulation (CE) 1272/2008 (CLP)

Regulation (CE) 790/2009 (I Atp. CLP)

Regulation (CE) 453/2010

Directive (CE) 2008/98

15.2 Chemical safety assessment.

Substances in the mixture for which a chemical safety assessment is available:

SODIUM HYDROXIDE

16 Other information.

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Skin Corr. 1A	Skin corrosion, category 1A
Skin Corr. 1B	Skin corrosion, category 1B
H314	Causes severe skin burns and eye damage.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

R34	CAUSES BURNS.
R35	CAUSES SEVERE BURNS.

GENERAL BIBLIOGRAPHY:

1. Directive 1999/45/EC and following amendments
2. Directive 67/548/EEC and following amendments and adjustments
3. Regulation (EC) 1907/2006 (REACH) of the European Parliament
4. Regulation (EC) 1272/2008 (CLP) of the European Parliament
5. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
6. Regulation (EC) 453/2010 of the European Parliament
7. Regulation (EC) 286/2011 (II Atp. CLP) of the European Parliament
8. The Merck Index. - 10th Edition
9. Handling Chemical Safety
10. Niosh - Registry of Toxic Effects of Chemical Substances
11. INRS - Fiche Toxicologique (toxicological sheet)
12. Patty - Industrial Hygiene and Toxicology
13. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
14. ECHA website Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product. This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses. Provide appointed staff with adequate training on how to use chemical products.

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