SAFETY DATA SHEET

In compliance with EC Regulations No.: 1907/2006, 830/2015 and 1272/2008 (CLP).

Date last modified: 21 October 2020 - version 4.0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

1.1 Product Identifier

Product Name: PASSIVATION LIQUID
Product Code #: 833024 (30 lt)

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

Intended Use: Industrial applications; Cleaning agent for stainless steel surface areas and equipment.

Uses advised against: This product is not recommended for any industrial, professional or consumer use other than the Intended Uses above and the instructions written in this Safety Data Sheet.

1.3 Details of the supplier of the safety data sheet

Company/undertaking identification

Supplier/Manufacturer:

Marichem Marigases Hellas SA
Sfaktirias 64,
185 45 Piraeus,
Greece
Tel. No.: ++30 210 4148800
Fax No.: ++30 210 4133985
http://www.marichem-marigases.com

e-mail: mail@marichem-marigases.com

1.4 Emergency telephone number

Tel. No.: ++30 210 4148800 (including working hours)

Emergency Information:
Inside U.S. and Canada: (800)-424-9300 (CHEMTREC)
Outside U.S. and Canada: 1-703-527-3887 (CHEMTREC)
National Emergency Centre (Greece): ++30 210 7793777

2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture

Classification under EC 1272/2008 regulation - GHS classification.

Oxidizing liquids - Category 3 - Warning (Ox. Liq. 3; H272)
Skin corrosion: category 1A - Danger (Skin. Corr. 1A; H314)
Corrosive to metals - Category 1 - Warning (Met. Corr. 1; H290)

SIGNAL WORD: DANGER

GHS 03 **GHS 05** **GHS 06**

Hazard Statement(s):
H272: May intensify fire; oxidizer.
H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.
EUH071: Corrosive to respiratory tract.

2.2 Label Elements

Labelling according to Regulation (EC) No. 1272/2008 - GHS classification.
The substance is classified and labelled according to the CLP Regulation.

Labelling according to GHS (1272/2008/EC)

SYMBOL:

GHS 03 **GHS 05** **GHS 06**

SIGNAL WORD: DANGER

Hazard Statement(s):
H272: May intensify fire; oxidizer.
H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.
EUH071: Corrosive to respiratory tract.

Precautionary Statement(s):

Prevention:
P220: Keep away from combustible materials.
P260: Do not breathe dust/fume/gas/mist/vapours/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P284: Wear respiratory protection.

Response:
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391: Collect spillage.

Storage:
P234: Keep only in original container.
P405: Store locked up.

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

2.3. Other hazards

The substance does not meet the criteria for persistent, bioaccumulation and toxicity (PBT) or the criteria for Very Persistent and Very Bioaccumulative (vPvB) in accordance with Annex XIII of 1907/2006/EC.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical Composition:

Ingredients	CAS Number	Proportion	Hazard Code(s)*
Nitric Acid	7697-37-2	5% - 20%	H272; H290; H314; EUH071.
Components which do not contribute to the classification of the product	-	80% - 95%	-

*See section 16 for the full text of the Hazard Code(s) declared above.

Occupational Exposure Limits, if available, are listed in section 8.

4. FIRST AID MEASURES

4.1. Description of first aid measures

General advice
If exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

4.1.1. In case of inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice.

4.1.2. In case of skin contact: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Seek medical advice.

4.1.3. In case of eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.

4.1.4. In case of ingestion: Only when conscious, rinse mouth. Do NOT induce vomiting. Seek medical advice.

4.1.5. Information to physician: Symptomatic treatment is advised.

4.2. Most important symptoms and effects, both acute and delayed: Irritation of eyes and mucous membranes. Burning sensation in mouth. Severe skin irritation.

4.3. Indication of any immediate medical attention and special treatment needed: Depending on the degree of exposure, periodic medical examination is suggested.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: All media. Suppress gases/mists with water spray jet. Carbon Dioxide. Sand.
Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture: Fire may liberate toxic Nitrogen oxides (NO_x).

5.3. Advice for fire-fighters
Special protective equipment: Use self-contained breathing apparatus when in close proximity to fire.
Special procedures: Apply water spray or fog to cool nearby equipment. Avoid fire-fighting water to enter environment.
Neutralize extinguishing water with a basic product.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Eliminate every possible source of ignition (open fire, sparks, smoking, ...). Evacuate all personnel immediately and ventilate area.
Avoid breathing vapor and contact with skin, eyes and clothing. Wear recommended personal protective equipment. (See section 8)

6.1.1. For non-emergency personnel: Remove not affected people. Inform the relevant authorities.

6.1.2. For emergency responders: Protective clothing and breathing apparatus must be worn.

6.2. Environmental precautions

Shut off leaks if without risks.
Dike in the spilled product as much as possible with inert material.
Prevent entry of product in public water, sewers or soil.
Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

6.3.1. Methods for cleaning up:
Collect the spillage in closable, corrosion resistant, suitable disposal containers.
Clean up any spills as soon as possible, using an inert absorbent material and eliminate as hazardous waste. (See section 13).
Neutralise spilled liquid with a base.
Residue is to be washed down with plenty of water.

6.3.2. Other information: Collect contaminated material in suited acid proof containers. Dispose of contaminated material and its container as hazardous waste according to local regulations.

6.4 Reference to other sections

For personal protection, see section 8.
For the removal of the waste product, see section 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Protective measures: Operate in a well-ventilated area. Provide sufficient air exchange and/or exhaust in work rooms. The efficiency of the ventilation system must be monitored regularly because of the possibility of blockage. Atmospheric concentrations should be minimized and kept as low as reasonably practicable below the occupational exposure limit.
The usual precautions for handling chemicals should be observed. Avoid any direct contact with the material. Use PPE. Substance is not flammable

7.1.2. Advice on general occupational hygiene: No eating, drinking, smoking or tobacco use at the place of work. Contact with skin and eyes and inhalation of vapours must be avoided under all circumstances. Wash hands prior eating, drinking or using restroom. Any protective clothing or shoes which become contaminated with this material should be removed immediately and laundered before wearing again.
Keep equipment clean. Keep stocks of decontaminant readily available.
7.1.3 Handling: AVOID EVERY CONTACT!!

Avoid breathing vapor and contact with skin, eyes and clothing. Wear recommended personal protective equipment. (See section 8).
Avoid heating, splashing and formation of vapor when emptying, pouring, diluting or dissolving the product.
When diluting, always pour the acid solution upon the water, never the other way round.

7.1.4 Protection against fire and explosion: Eliminate every possible source of ignition (open fire, sparks, smoking).

7.2. Conditions for safe storage, including any incompatibilities

Storage: Keep only in the original, safely locked container in a well ventilated, cool and dark place.
All dangerous products should be placed on a drip tray or should be barreled.
Keep away from: Combustibles, Reducing agents, Bases.
Packaging Material: Synthetic material.
Unsuitable Packaging Material: Metals.

7.3. Specific end use(s)

Cleaning product for industrial use only.

For identified uses, see subsection 1.2 and/or exposure scenarios.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

The recommended control strategies:

1. Employ good industrial hygiene practice.
2. Use local exhaust ventilation.
3. Enclose the process.
4. Seek the advice of a specialist.

8.1. **Control parameters**

8.1.1. **Occupational exposure limits:**

Name of Substance: Nitric Acid

Exposure limit values

Nitric acid: Short time value (BE): 1 ppm (2,6 mg/m³) (2009)
Nitric acid: Limit value (TWA 15 min) (NL): 0,5 ppm (1,3 mg/m³) (2007)

Biological limit values

They will be included when available.

DNELs (Derived No-Effect Level) values

Worker, acute - local effects, inhalation: 2,6 mg/m³.
Worker, long-term - local effects, inhalation: 1,3 mg/m³.

PNEC (Predicted No-Effect Concentration) values

Not relevant.

8.2. Exposure controls

8.2.1. Appropriate engineering controls: Provide effective ventilation and light. Make emergency shower, wash-basin and eye-rinser available. Keep first aid kit in reach.

8.2.2. Industrial Hygiene

When using, do not eat, drink or smoke.
Emergency eye wash fountains and showers should be available in the immediate vicinity of any potential exposure.

8.2.2. Personal protection equipment

8.2.2.1. Eye/Face protection: Closed safety glasses or face shield.

8.2.2.2. Skin and body protection: acid-proof protective clothing, acid-proof shoes, boots.

Hand protection: acid-proof protective gloves to EN 374. e.g. PVC or rubber gloves.

8.2.2.3. Respiratory protection: Ventilation , local exhaust. Respiratory protection equipment (combination filter type BE/P2).

8.2.2.4. General safety and hygiene measures: Wearing of closed work clothing is required and additionally to the stated personal protective equipment. Keep away from drink, food and animal feeding stuffs. No eating, drinking, smoking or tobacco use at the place of work. Take off immediately all contaminated clothing. Hands and face should be washed before breaks. At the end of the shift the skin could be cleaned and skin-care agents applied.

8.2.3. Environmental exposure controls: In accordance with local and national regulations.
Respect local/federal and national regulations for aqueous emissions.
See sections 6, 7, 12 and 13.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

9.1.1. Appearance

Physical State: Liquid

Color:	Clear, Colorless
Odor:	Characteristic

9.1.2. Basic data

Boiling Point Range:	> 100.0^{o}C
Melting Point:	0^{o}C
Solubility in water:	Appreciable
Flash Point:	None
Autoignition Temperature:	Not available
Lower Explosion Limit (vol %):	None
Upper Explosion Limit (vol %):	None
Relative vapor density (air=1):	1.27
Viscosity:	Not available
Specific Gravity:	1.15 – 1.20 gr/cm^{3} (at 15^{o}C)
pH Value:	0.80 - 1.20

9.2. Other information

Particle size distribution (Granulometry): Granulometry is only relevant to solids. Pickling Liquid is a solution.
Surface tension: Based on the structure, surface activity is not expected.
Explosiveness: Based on structure no chemical groups associated with explosive properties.
Stability in organic solvents and identity of relevant degradation products: Pickling Liquid is inorganic.
Dissociation constant: The study is scientifically impossible, Pickling Liquid is a strong acid and therefore the pKa is infinitely.

10. STABILITY AND REACTIVITY

10.1 Reactivity: The Nitric Acid solution in water is a strong acid; it reacts violently with bases and is corrosive.

10.2. Chemical stability: Stable at normal circumstances, under recommended storage and handling conditions.

10.3. Possibility of hazardous reactions: Incombustible product, but stimulates fire of other materials. Contact with metallic substances may release inflammable hydrogen gas.

10.4. Conditions to avoid: High temperatures. Reaction with alkaline substances (bases).

10.5. Incompatible materials: Combustibles, Reducing agents, Alkalis. The acid reacts violent with alkalis with evolution of heat.

10.6. Hazardous decomposition products: Fire may liberate toxic Nitrogen oxides (NO_x).

11. TOXICOLOGICAL INFORMATION

Name of Substance: Nitric Acid

11.1. Acute toxicity

Acute toxicity Inhalation: May be stinging strongly to respiratory tract. Inhalation of vapor/fumes can cause lung oedema.
Symptoms include: Tears, Sore throat, Cough, Dizziness, Shortness of breath,
Difficulty in breathing, Unconsciousness.
•Nitric acid: LC50 (Rat, inhalation, 48 h): 7 mg/l

Acute toxicity Dermal: Not classified due to lack of data.

11.1.2. Skin contact

Strongly stinging to the skin.
Symptoms include: Redness, pain, blisters, and severe burns.

11.1.3. Eye contact

Strongly stinging to eyes.
Symptoms include: Redness, pain, bad vision, serious eye damage.

11.1.4. Ingestion

Symptoms include: Stomach complaints, nausea, vomiting, diarrhea, weakness and trembling.
• Nitric acid: LDL_o (human, oral): > 400 mg/kg.

11.2. Chronic Toxicity

The product may affect the upper and lower airways, causing infections and impaired lung function.

11.2.1. Sensitisation

Not sensitive.

11.2.2. Carcinogenicity

Not carcinogenic.

11.2.3. Mutagenicity

Not mutagenic.

11.2.4. Reproductive toxicity

Not dangerous for the reproduction.

12. ECOLOGICAL INFORMATION

Name of Substance: Nitric Acid

12.1. Toxicity

Ecotoxicity: LC50 (Fish, 96 h) : > 70 mg/l (Gambusia affinis).

12.2. Persistence and degradability

Hydrolysis: Data waiver. The active substance, Nitric Acid, is used as an aqueous solution (05-20%). Nitric Acid is a strong acid that is very soluble in water and dissociates. Thus, due to these intrinsic properties, it is scientifically impossible to perform the hydrolysis test. In addition, since the behaviour of Nitric Acid in water is known, it is also not scientifically necessary to perform a hydrolysis test.

Biodegradation in water: Data waiver. As the active substance, Nitric Acid, is an inorganic compound, the ready biodegradability, inherent biodegradability and biodegradation in seawater are scientifically impossible to perform.
Biodegradation in water and sediment: Data waiver. Substance disassociates when entering the water.
Biodegradation in soil: Data waiver. Substance disassociates when entering the water and has no adsorption/desorption potential.

12.3. Bioaccumulative potential

Bioaccumulation not expected.

12.4. Mobility in soil

Completely soluble in water.

12.5. Results of PBT and vPvB assessment

Nitric Acid does not fulfil all criteria to be classified as a PBT or vPvB substance.

12.6. Other adverse effects

WGK class (DE): 1
Water damaging (NL): 9
Decontamination exertion (NL): B

13. DISPOSAL CONSIDERATIONS

Do not emit directly to drains, environment. After cautious neutralization with caustic solvent it is to be diluted with much water.

13.1. Waste treatment methods

Waste from residues/Unused products

The product has to be destroyed in accordance with the international and local waste management regulations, by a company specialised in handling hazardous waste products.

13.1.2. Product / Packaging disposal

Product: The unnecessary untreated product shall be considered as hazardous waste. The generated waste shall be treated by specialized companies in disposing in line with the local regulations and with the hazardous waste regulations.
Packing: After use, empty and close the packing very carefully. The uncleaned packing/container shall be handled in the same way as the product. The packaging material may be reused after cleaning.

13.1.3. European list of waste products

XXXXXX - European waste product code. This code is assigned on the basis of the most current applications and cannot be representative for pollutions which are arisen at the effective use of the product. The producer of the waste has to evaluate its process himself and has to grant the appropriate waste coding. See Decision 2001/118/EC.
060105 - Nitric acid and nitrous acid.

13.1.4. Waste treatment options

Observe local authority regulations.

14. TRANSPORT INFORMATION

14.1 Proper Shipping Name: Corrosive Liquid, N.O.S. (Nitric Acid)

14.2 LAND TRANSPORT

UN number:	3264		
ADR class:	8	RID class:	8

14.3 SEA TRANSPORT

UN number:	3264	EmS:	F-A, S-B
IMDG class:	8		
IMDG packing group:	III		

Subsidiary Risk Label: Marine Pollutant

14.4 AIR TRANSPORT

UN number:	3264		
IATA/ICAO class:	8	Packing group:	III

Subsidiary Risk Label: Marine Pollutant

15. REGULATORY INFORMATION

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2 Chemical Safety Assessment

A CSA has been carried out for the raw materials in this product, from the raw materials manufacturers (when needed to be carried out).

16. OTHER INFORMATION

16.1 Full text of Hazard Code(s) referred in Section 3

H272: May intensify fire; oxidizer.
H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.
EUH071: Corrosive to respiratory tract.

16.2 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).
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail).
IMDG: International Maritime Code for Dangerous Goods.
IATA: International Air Transport Association.
ICAO: International Civil Aviation Organization.
bw: Body weight.
Carc.: Carcinogenicity.
CAS number: Chemical Abstracts Service number.
CLP: Classification Labelling Packaging Regulation.
CSA: Chemical Safety Assessment.
CSR: Chemical Safety Report.
DNEL: Derived No Effect Level.
dw: Dry weight.
EC number: EINECS and ELINCS number.
EC: European Commission.
EC50: Half maximal effective concentration.
EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EmS: Emergency Schedule.
ERC: Environmental Release Category.
ES: Exposure scenario.
food: oral feed.
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
Irrit.: Irritation.
LC50: Lethal concentration, 50 %.
LD50: Median Lethal dose.
LOAEC: Lowest Observed Adverse Effect Concentration.
LOAEL: Lowest Observed Adverse Effect Level.
MK value: Maximum Concentration value.
NCO: An international corporation that provides customer service contracting.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.

NOEC: No Observed Effect Concentration.
OECD: Organisation for Economic Cooperation and Development.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
PROC: Process category.
REACH: The Registration, Evaluation, Authorisation and Restriction of Chemicals.
Resp.: Respiratory.
Sens.: Sensitization.
STEL value: Short Term Exposure Limit value.
STOT RE: Specific target organ toxicity — repeated exposure.
STOT SE: Specific target organ toxicity — single exposure.
STOT: Specific Target Organ Toxicity.
STP: Sewage Treatment Plant.
SU: Sector of use.
Tox.: Toxicity.
TWA value: Time Weighted Average value.
vPvB: Very Persistent and Very Bioaccumulative.

16.3 Notice to reader

All information, instructions and statements contained in this Material Safety Data Sheet are compiled in accordance with European Directives, corresponding national legislation and on the basis of information given by our suppliers.
The information disclosed in this Material Safety Data Sheet (which supersedes all previous versions) is believed to be correct, at the date of issue, to the best of our current knowledge and experience. It only relates to the specific product designated herein and it may not be valid when said product is used in combination with any other products or in any processed form, unless specified in the text. This document aims to provide the necessary health and safety information of the product and is not to be considered a warranty or quality specification. It is the responsibility of the recipient of this Material Safety Data Sheet to ensure that information given here is read and understood by all who use, handle, dispose of or in any way come in contact with the product.
Also, it is the responsibility of the user to comply with local legislation relating to safety, health, environment and waste management. Data and information provided concerning the product are informative, exclusively presented to the customer.