SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : CAPFOL

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

Use for agriculture (nutrients/ trace elements for plants)

1.3. Details of the supplier of the safety data sheet

Registered company name : AGRONUTRITION SAS..

Address : Parc Activestre - 3 avenue de l'Orchidée.31390.CARBONNE.FRANCE.

Telephone : +33 (0)5 61 97 85 00. Fax : .

fds-msds@agro-nutrition.fr

Distributed by: DeSangosse New Zealand Ltd, PO Box113Te Awamutu, 3841.Ph:07 827 4856, Fax:07 827 4806infonz@desangosse.com

1.4. Emergency telephone number : +0800 764 766 .

Association/Organisation : New Zealand National Poisons Centre:poisons@otago.ac.nz.

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS compliant.

Substance that is corrosive to metals, Category 1 (Met. Corr. 1, H290).

Skin corrosion, Category 1A (Skin Corr. 1A, H314).

Serious eye damage, Category 1 (Eye Dam. 1, H318).

Hazardous to the aquatic environment - Acute hazard, Category 2 (Aquatic Acute 2, H401).

Hazardous to the aquatic environment - Chronic hazard, Category 2 (Aquatic Chronic 2, H411).

2.2. Label elements

GHS compliant.

Hazard pictograms :

GHS05

GHS09

Signal Word :

DANGER

Product identifiers :

CAS 7664-38-2 PHOSPHORIC ACID 75%

Hazard statements :

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements - General :

P102	Keep out of reach of children.

Precautionary statements - Prevention :

P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - Response :

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.

Precautionary statements - Disposal :

P501	Dispose of contents/ container to an approved waste disposal plant.

2.3. Other hazards

Replace the contents / container to an approved disposal center.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	GHS	Note	%
INDEX: 017-013-00-2 CAS: 10043-52-4 EC: 233-140-8 CALCIUM CHLORIDE	GHS07 Wng Eye Irrit. 2, H319		25 <= x % < 50
CAS: 7664-38-2 EC: 231-633-2 REACH: 01-21119485924-24-0021 PHOSPHORIC ACID 75%	GHS07, GHS05 Dgr Met. Corr. 1, H290 Acute Tox. 4, H302 Skin Corr. 1B, H314	[1]	2.5 <= x % < 10
CAS: 7779-88-6 EC: 231-943-8 REACH: 05-2117368463-38-xxxx ZINC(II) NITRATE	GHS07, GHS09, GHS03 Dgr Ox. Liq. 2, H272 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Chronic 1, H410 M Chronic = 1		2.5 <= x % < 10

(Full text of H-phrases: see section 16)

Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

bring the packaging, label or Material Safety Data when you call the emergency number, a poison control center or doctor

4.1. Description of first aid measures

In the event of exposure by inhalation :

Remove the victim to fresh air. In case of respiratory problems, consult a doctor/medical service.

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

Regardless of the initial state, refer the patient to an ophthalmologist and show him the label.

Reset contact lenses

In the event of splashes or contact with skin :

Remove any soiled or splashed clothing immediately.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

In the event of swallowing :

Do not give the patient anything orally.

Seek medical attention immediately, showing the label.

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

Symptoms/lesions after inhalation: cough,respiratory tract irritation.

Symptoms/lesions after skin contact: skin irritation, redness.

Symptoms/lesions after eye contact: corrosion, irritation of the eye tissues.

Symptoms/lesions after ingestion: abdominal pain, nausea.

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

Treat symptomatically.

SECTION 5 : FIREFIGHTING MEASURES

Non-flammable.

5.1. Extinguishing media

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- carbon dioxide (CO2)
- powder

Do not use a strong water jet, danger of spreading of the product.

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- nitrogen oxide (NO)
- nitrogen dioxide (NO2)
- phosgene (CCl2O)
- chlorine (Cl2)

5.3. Advice for firefighters

Precautions against fire: like in case of all fires involving chemicals, wear appropriate protective equipment (chemical protective clothing, boots and gloves).

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For non first aid worker

Avoid any contact with the skin and eyes.

If spill is large, evacuate all personnel and only allow intervention by trained operators and equipped with individual protection equipment appropriate (refer to Section 8).

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

If the product contaminates waterways, rivers or drains, alert the relevant authorities in accordance with statutory procedures

Use drums to dispose of collected waste in compliance with current regulations (see section 13).

If the product contamines waterways, rivers or drains, alert the relevant authorities in accordance with statutory procedures.

6.3. Methods and material for containment and cleaning up

Neutralise with an alkaline decontaminant, such as an aqueous solution of sodium carbonate or similar.

If the ground is contaminated, once the product has been recovered by sponging with an inert and non-combustible absorbent material, wash the contaminated area in plenty of water.

Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

See section 1 for information about emergency contact.

Se section 13 for obtain additional information on waste treatment.

See section 8 for information on personal protection equipments.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Remove contaminated clothing and protective equipment before entering eating areas.

Emergency showers and eye wash stations will be required in facilities where the mixture is handled constantly.

Avoid inhalation of dust

Fire prevention :

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

Never open the packages under pressure.

7.2. Conditions for safe storage, including any incompatibilities

The regulations relating to storage premises apply to workshops where the product is handled. Deny access to persons not allowed.

Storage

Keep out of reach of children.

Keep the container tightly closed in a dry place.

Keep away from food, drink and animal feedingstuffs.

Keep the product away from heat sources.

Storage temperature: 0-35°C

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- European Union (2017/2398, 2017/164, 2009/161, 2006/15/CE, 2000/39/CE, 98/24/CE) :

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Notes :
7664-38-2	1	-	2	-	-

- France (INRS - ED984 :2016) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :	
7664-38-2	0.2	1	0.5	2	-	-	-

- UK / WEL (Workplace exposure limits, EH40/2005, 2011) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
7664-38-2	- ppm 1 mg/m³	- ppm 2 mg/m³			

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

PHOSPHORIC ACID 75% (CAS: 7664-38-2)

Final use:	**Workers.**
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	1 mg of substance/m3
Exposure method:	Inhalation.
Potential health effects:	Long term local effects.
DNEL :	2.92 mg of substance/m3

Final use:	**Consumers.**
Exposure method:	Inhalation.
Potential health effects:	Long term local effects.
DNEL :	0.73 mg of substance/m3

8.2. Exposure controls

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :

Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles with protective sides accordance with standard EN166.

In the event of high danger, protect the face with a face shield.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

- Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :

- Natural latex
- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
- PVC (polyvinyl chloride)
- Butyl Rubber (Isobutylene-isoprene copolymer)

Recommended properties :

- Impervious gloves in accordance with standard EN374

- Body protection

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605 to prevent skin contact.

In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034 to prevent skin contact.

Wear suitable protective clothing, in particular overalls and boots. These items must be kept in good condition and cleaned after use.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Type of FFP mask :

Wear a disposable half-mask aerosol filter in accordance with standard EN149.

Category :

- FFP2

If the setting eouvre the product and its application (spray atomization) is generating aerosol or fine particles liquids, it is recommended to wear a respirator, properly fitted.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

General information :

Physical state :	Fluid liquid.
Color	Translucent green yellow
Odor	Odourless
State	Soluble concentrate (SL)

Important health, safety and environmental information

pH (aqueous solution) :	2.20+/-0.6 (10g/l)
pH :	0.00 +/-0.6. Strongly acidic.
Boiling point/boiling range :	Not relevant.
Flash point interval :	Not relevant.
Vapour pressure (50°C) :	Not relevant.
Density :	1330 (+/-1.5%) g/dm3
Water solubility :	Soluble.
Melting point/melting range :	Not relevant.
Self-ignition temperature :	Not relevant.
Decomposition point/decomposition range :	Not relevant.

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

Mixture which by chemical action can corrode and even destroy metals.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

According to our knowledge, this product does not present any particular hazard under normal conditions of use and storage.

10.4. Conditions to avoid

Avoid :

- frost
- heat

10.5. Incompatible materials

Keep away from :

- strong reducing agents
- strong bases

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- nitrogen oxide (NO)
- nitrogen dioxide (NO2)
- phosgene (CCl2O)
- chlorine (Cl2)

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

May cause irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis, following exposure for up to three minutes.

Corrosive reactions are typified by ulcers, bleeding, bloody scabs, and, by the end of observation at 14 days, by discolouration due to blanching of the skin, complete areas of alopecia, and scars.

11.1.1. Substances

Acute toxicity :

PHOSPHORIC ACID 75% (CAS: 7664-38-2)

Oral route :	LD50 > 300 mg/kg

Species : Rat
OECD Guideline 423 (Acute Oral toxicityAcute Toxic Class Method)

Germ cell mutagenicity :

PHOSPHORIC ACID 75% (CAS: 7664-38-2)

No mutagenic effect.

OECD Guideline 471 (Bacterial Reverse Mutation Assay)

Carcinogenicity :

PHOSPHORIC ACID 75% (CAS: 7664-38-2)

Carcinogenicity Test : Negative.
No carcinogenic effect.

Reproductive toxicant :

PHOSPHORIC ACID 75% (CAS: 7664-38-2)

No toxic effect for reproduction

Study on development : Species : Rat
OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

11.1.2. Mixture

Acute toxicity :

No data on the product itself is available.

Skin corrosion/skin irritation :

Corrosive classification is based on an extreme pH value.

Causes skin irritation

Serious damage to eyes/eye irritation :

Corrosive classification is based on an extreme pH value.

May cause reversible eye effects such as eye irritation

The severity depends on the concentration and exposure time

Respiratory or skin sensitisation :

No evidence of this effect has been found.

Germ cell mutagenicity :

No evidence of this effect was found.

Carcinogenicity :

No evidence of this effect was found

Reproductive toxicant :

No evidence of this effect was found.

SECTION 12 : ECOLOGICAL INFORMATION

Toxic to aquatic life with long lasting effects.

The product must not be allowed to run into drains or waterways.

The mineral elements (nutrients) contained in this product are essential for healthy plant growth, but may be harmful in large quantities to wildlife, aquatic organisms or sensitive plants. It is therefore necessary to minimize the amount of product released into the environment, except as part a rational fertilization program for the plants, preferably after a test for soil and/or plant issues.

12.1. Toxicity

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

12.2.2. Mixtures

This product is very soluble in water and is dangerous to the aquatic environment in the long term. We must therefore ensure that any flow is not driven into the aquatic environment or in any sewer or drain. When using, avoid spreading of the product in the cultivated areas (hedges, borders, ditches, streams).

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

At high concentrations in water, adverse effects due to pH can be observed on aquatic life. Ensure that all flow is not driven into the aquatic environment or in any égoput or drain. When using, do not spill the product beyond the acreage (hedges, edges, ditches, streams).

SECTION 13 : DISPOSAL CONSIDERATIONS

The appropriate waste management of the mixture and/or its container must be determined in accordance with local regulations.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

Local arrangements :

submit to an approved disposal.

SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2015 - IMDG 2014 - ICAO/IATA 2016).

14.1. UN number

3264

14.2. UN proper shipping name

UN3264=CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

(phosphoric acid 75%, zinc(ii) nitrate)

14.3. Transport hazard class(es)

- Classification :

8

14.4. Packing group

III

14.5. Environmental hazards

- Environmentally hazardous material :

14.6. Special precautions for user

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	8	C1	III	8	80	5 L	274	E1	3	E

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ
	8	-	III	5 L	F-A,S-B	223 274	E1

IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ
	8	-	III	852	5 L	856	60 L	A3 A803	E1

	8	-	III	Y841	1 L	-	-	A3 A803	E1

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available.

SECTION 15 : REGULATORY INFORMATION

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

The following regulations have been used:

- Globally Harmonized System of Classification and Labelling of Chemicals (GHS), review no. 5 (2013)

- Container information:

No data available.

- Particular provisions :

No data available.

15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Updated following the change of classification of phosphoric acid.

Wording of the phrases mentioned in section 3 :

H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H410	Very toxic to aquatic life with long lasting effects.

Abbreviations :

DNEL : Derived No-Effect Level

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

GHS05 : Corrosion

GHS09 : Environment

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.