

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2020/878)

## MANNI-PLEX Mn-Zn

Version 1 Date of compilation: 20/12/2018

Version 6 (replaces version 5)

Revision date: 28/10/2022

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

#### 1.1 Product identifier.

Product Name: MANNI-PLEX Mn-Zn  
UFI: 3SN0-D0AX-300X-WAE6

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

ABONO CE

#### Uses advised against:

Uses other than those recommended.

#### 1.3 Details of the supplier of the safety data sheet.

Company: **BRANDT EUROPE S.L.**  
Address: Ctra. Carmona - Guadajoz Km 3.1  
City: 41410 - Carmona  
Province: Sevilla  
Telephone: 95 419 62 30  
Fax: 95 419 62 40  
E-mail: Brandt.Europe@Brandt.co  
Web: www.brandteurope.com

#### 1.4 Emergency telephone number: (34) - 91 562 04 20 (Available 24 hours)

### SECTION 2: HAZARDS IDENTIFICATION.

#### 2.1 Classification of the substance or mixture.

In accordance with Regulation (EC) No 1272/2008:

Acute Tox. 3 : Toxic if inhaled.  
Aquatic Chronic 3 : Harmful to aquatic life with long lasting effects.  
Eye Dam. 1 : Causes serious eye damage.  
Flam. Liq. 2 : Highly flammable liquid and vapour.  
Skin Corr. 1 : Causes severe skin burns and eye damage.

#### 2.2 Label elements.

#### Labelling in accordance with Regulation (EC) No 1272/2008:

Pictograms:



Signal Word:

**Danger**

Hazard statements:

H225 Highly flammable liquid and vapour.  
H314 Causes severe skin burns and eye damage.  
H331 Toxic if inhaled.  
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash ... thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P310 Immediately call a POISON CENTER/doctor/...

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P370+P378 In case of fire: Use... to extinguish.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Contains:  
nitric acid  
nitric acid

### 2.3 Other hazards.

The mixture does not contain substances classified as PBT.  
The mixture does not contain substances classified as vPvB.  
The mixture does not contain any endocrine disrupting properties substances.

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

### 3.1 Substances.

Not Applicable.

### 3.2 Mixtures.

Substances posing a danger to health or the environment in accordance with the Regulation (EC) No. 1272/2008, assigned a Community exposure limit in the workplace, and classified as PBT/vPvB or included in the Candidate List:

Identifiers	Name	Concentrate	(*)Classification - Regulation (EC) No 1272/2008	
			Classification	Specifics concentration limits and Acute toxicity estimate
CAS No: 7779-88-6 EC No: 231-943-8 Registration No: 01-2119488498-16-XXXX	zinc nitrate	0.25 - 2.5 %	Acute Tox. 4, H302 - Aquatic Acute 1, H400 (M=1) - Aquatic Chronic 1, H410 (M=1) - Eye Irrit. 2, H319 - Ox. Sol. 2, H272 - STOT SE 3, H335 - STOT SE 3, H336 - Skin Irrit. 2, H315	-
Index No: 007-004-00-1 CAS No: 7697-37-2 EC No: 231-714-2 Registration No: 01-2119487297-23-XXXX	[1] [2] nitric acid	0.1 - 1 %	Acute Tox. 1, H330 - Ox. Liq. 2, H272 - Skin Corr. 1A, H314	Ox. Liq. 3, H272: 65 % ≤ C < 99 % Ox. Liq. 2, H272: C ≥ 99 %
Index No: 007-030-00-3 CAS No: 7697-37-2 EC No: 231-714-2 Registration No: 01-2119487297-23-XXXX	[1] [2] nitric acid	0.1 - 5 %	Acute Tox. 3, H331 - Ox. Liq. 3, H272 - Skin Corr. 1A, H314	Skin Corr. 1A, H314: C ≥ 20 % Skin Corr. 1B, H314: 5 % ≤ C < 20 % Ox. Liq. 3, H272: C ≥ 65 % Inhalation: ETA = 2.65 mg/l (ATP 15.- ETA vapores)

(\*) The complete text of the H phrases is given in section 16 of this Safety Data Sheet.

[1] Substance with a European Union exposure limit in the workplace (see section 8.1).

[2] Substance with a national workplace exposure limit (see section 8.1).

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### SECTION 4: FIRST AID MEASURES.

#### 4.1 Description of first aid measures.

Immediate medical attention is required. It is recommended to move the affected person out of the exposure area. Delayed effects may occur after the exposure to the product.

#### Inhalation.

Take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration. Do not administer anything orally. If unconscious, place them in a suitable position and seek medical assistance. The use of personal protective equipment is recommended for people providing first aid (see section 8).

#### Eye contact.

Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance. Don't let the person to rub the affected eye.

#### Skin contact.

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. NEVER use solvents or thinners.

#### Ingestion.

If accidentally ingested, seek immediate medical attention. Keep calm. NEVER induce vomiting.

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

Corrosive Product, contact with eyes or skin can cause burns; ingestion or inhalation can cause internal damage, if this occurs immediate medical assistance is required.

Toxic Product, accidental contact may result in serious respiratory difficulties, alteration of the central nervous system and in extreme cases, unconsciousness. Immediate medical assistance is required.

Contact with eyes may cause irreversible damage.

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

Request immediate medical attention. Never administer anything orally to persons who are unconscious. Do not induce vomiting. If the person vomits, clear the respiratory tract. Keep the person comfortable. Turn him/her over to the left side and stay there while waiting for medical care.

### SECTION 5: FIREFIGHTING MEASURES.

The product is Highly flammable, it can cause or considerably worsen a fire, the necessary prevention measures should be taken and risks avoided. In case of fire, the following measures are recommended:

#### 5.1 Extinguishing media.

##### Suitable extinguishing media:

Extinguisher powder or CO<sub>2</sub>. In case of more serious fires, also alcohol-resistant foam and water spray.

##### Unsuitable extinguishing media:

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam as extinguishing media.

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

##### Special risks.

Exposure to combustion or decomposition products can be harmful to your health.

During a fire and depending on its magnitude the following may occur:

- Flammable vapors or gases.
- Toxic vapors or gases.

#### 5.3 Advice for firefighters.

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways. Product residues and extinguishing media may contaminate the aquatic environment. Follow the instructions given in the emergency or fire evacuation plan or plans if available.

##### Fire protection equipment.

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According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and boots. During extinction and depending on the magnitude and proximity to the fire, additional protective equipment such as chemical protection gloves, heat-reflecting suits or gas-tight suits may be required.

### SECTION 6: ACCIDENTAL RELEASE MEASURES.

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

Eliminate possible ignition points and ventilate the area. No smoking. Avoid breathing fumes. For exposure control and individual protection measures, see section 8.

#### 6.2 Environmental precautions.

Product dangerous for the environment, in case of large spills or if the product contaminates lakes, rivers, or sewers, inform the responsible authorities according to local legislation. Prevent the contamination of drains, surface or subterranean waters, and the ground.

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

Contain and collect spillage with inert absorbent material (earth, sand, vermiculite, Kieselguhr...) and clean the area immediately with a suitable decontaminant.

Deposit waste in closed and suitable containers for disposal, in compliance with local and national regulations (see section 13).

#### 6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8.

For later elimination of waste, follow the recommendations under section 13.

### SECTION 7: HANDLING AND STORAGE.

#### 7.1 Precautions for safe handling.

The fumes are heavier than air and can spread across the ground. They can form explosive mixtures with air. Prevent the creation of flammable or explosive fume concentrations in the air; prevent fume concentrations above work exposure limits. The product must only be used in areas where all unprotected flames and other ignition points have been eliminated. Electrical equipment has to be protected according to applicable standards.

The product can be electrostatically charged: always use earth grounds when transferring the product. Operators must use anti-static footwear and clothing, and floors must be conductors.

Keep the container tightly closed and isolated from heat sources, sparks, and fire. Do not use tools that can cause sparks. For personal protection, see section 8.

In the application area, smoking, eating, and drinking must be prohibited.

Follow legislation on occupational health and safety.

Never use pressure to empty the containers. They are not pressure-resistant containers. Keep the product in containers made of a material identical to the original.

#### 7.2 Conditions for safe storage, including any incompatibilities.

Store according to local legislation. Observe indications on the label. Store the containers between 5 and 25 ° C, in a dry and well-ventilated place, far from sources of heat and direct solar light. Keep far away from ignition points. Keep away from oxidising agents and from highly acidic or alkaline materials. Do not smoke. Prevent the entry of non-authorized persons. Once the containers are open, they must be carefully closed and placed vertically to prevent spills.

The product is not affected by Directive 2012/18/EU (SEVESO III).

#### 7.3 Specific end use(s).

Not available.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

#### 8.1 Control parameters.

Work exposure limit for:

Name	CAS No.	Country	Limit value	ppm	mg/m <sup>3</sup>
nitric acid	7697-37-2	European	Eight hours		

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		Union [1]	Short term	1	2,6
		United Kingdom [2]	Eight hours		
			Short term	1	2,6
		Éire [3]	Eight hours		
			Short term	1	2,6
		United States [4] (Cal/OSHA)	Eight hours	2	
			Short term	4	
		United States [5] (NIOSH)	Eight hours	2	
			Short term	4	
		United States [6] (OSHA)	Eight hours	2	5
			Short term		
		nitric acid	7697-37-2	European Union [1]	Eight hours
United Kingdom [2]	Short term			1	2,6
	Eight hours				
Éire [3]	Short term			1	2,6
	Eight hours			2	
United States [4] (Cal/OSHA)	Short term			4	
	Eight hours			2	
United States [5] (NIOSH)	Short term			4	
	Eight hours			2	5
United States [6] (OSHA)	Short term				

[1] According both Binding Occupational Exposure Limits (BOELVs) and Indicative Occupational Exposure Limits (IOELVs) adopted by Scientific Committee for Occupational Exposure Limits to Chemical Agents (SCOEL).

[2] According Limit Value (IOELV) list in 2nd Indicative Occupational Exposure adopted by Health and Safety Executive.

[3] According Code of Practice for the Safety, Health and Welfare at Work (Chemicals Agents) Regulations adopted by Health and Safety Authority (HSA).

[4] California Division of Occupational Safety and Health (Cal/OSHA) Permissible Exposure Limits (PELs).

[5] National Institute for Occupational Safety and Health. NIOSH Recommendations for occupational safety and health, Compendium of Policy Documents and Statements, January, 1992, DHHS (NIOSH) Publication No. 92-100.

[6] Occupational Safety and Health Administration, United States Department of Labor. Permissible Exposure limits (PELs), California Division of Occupational Safety and Health (Cal/OSHA) Permissible Exposure Limits (PELs).

The product does NOT contain substances with Biological Limit Values.

### 8.2 Exposure controls.

#### Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

<b>Concentration:</b>	<b>100 %</b>
<b>Uses:</b>	<b>ABONO CE</b>
<b>Breathing protection:</b>	
PPE:	Filter mask for protection against gases and particles.
Characteristics:	«CE» marking, category III. The mask must have a wide field of vision and an anatomically designed form in order to be sealed and watertight.
CEN standards:	EN 136, EN 140, EN 405
Maintenance:	Should not be stored in places exposed to high temperatures and damp environments before use. Special attention should be paid to the state of the inhalation and exhalation valves in the face adaptor.
Observations:	Read carefully the manufacturer's instructions regarding the equipment's use and maintenance. Attach the necessary filters to the equipment according to the specific nature of the risk (Particles and aerosols: P1-P2-P3, Gases and vapours: A-B-E-K-AX), changing them as advised by the manufacturer.
Filter Type needed:	A2
<b>Hand protection:</b>	
PPE:	Non-disposable protective gloves against chemicals.
Characteristics:	«CE» marking, category III. Check the list of chemicals for which the glove has been tested.
CEN standards:	EN 374-1, En 374-2, EN 374-3, EN 420
Maintenance:	A schedule for the periodical replacement of gloves should be established in order to guarantee their replacement before pollutants permeate them. The use of contaminated gloves could be more dangerous than not using gloves, since the pollutant can gradually accumulate in the glove's material.
Observations:	They are to be replaced whenever tears, cracks or deformations are observed or when exterior dirt could reduce their strength.



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Material:	PVC (polyvinyl chloride)	Breakthrough time (min.):	> 480	Material thickness (mm):	0,35
<b>Eye protection:</b>					
If the product is handled correctly, no individual protection equipment is necessary.					
<b>Skin protection:</b>					
PPE:	Chemical protective clothing				
Characteristics:	«CE» marking, category III. Clothing should fit properly. The level of protection must be set according to a test parameter called BT (Breakthrough Time), which indicates how long it takes for the chemical to pass through the material.				
CEN standards:	EN 464, EN 340, EN 943-1, EN 943-2, EN ISO 6529, EN ISO 6530, EN 13034				
Maintenance:	In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer.				
Observations:	The protective clothing's design should facilitate correct positioning, staying in place without moving for the period of use expected, bearing in mind environmental factors as well as any movement or position the user might adopt while carrying out the activity.				
PPE:	Anti-static safety footwear against chemicals.				
Characteristics:	«CE» marking, category III. Check the list of chemicals against which the footwear is resistant.				
CEN standards:	EN ISO 13287, EN 13832-1, EN 13832-2, EN 13832-3, EN ISO 20344, EN ISO 20345				
Maintenance:	For correct maintenance of this kind of safety footwear, it is necessary to observe the instructions specified by the manufacturer. The footwear should be replaced as soon as any sign of damage is observed.				
Observations:	The footwear should be cleaned regularly and dried when damp, although it should not be placed too close to a source of heat in order to avoid any sharp changes in temperature.				

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

#### 9.1 Information on basic physical and chemical properties.

Physical state: Liquid

Colour: AMARILLO CLARO

Odour: Not applicable/Not available due to the nature/properties of the product

Odour threshold: Not applicable/Not available due to the nature/properties of the product

Melting point: Not applicable/Not available due to the nature/properties of the product

Freezing point: Not applicable/Not available due to the nature/properties of the product

Boiling point or initial boiling point and boiling range: Not applicable/Not available due to the nature/properties of the product

Flammability: Not applicable/Not available due to the nature/properties of the product

Lower explosion limit: Not applicable/Not available due to the nature/properties of the product

Upper explosion limit: Not applicable/Not available due to the nature/properties of the product

Flash point: -3 °C

Auto-ignition temperature: Not applicable/Not available due to the nature/properties of the product

Decomposition temperature: Not applicable/Not available due to the nature/properties of the product

pH: 2,0 (1%)

Kinematic viscosity: Not applicable/Not available due to the nature/properties of the product

Solubility: Not applicable/Not available due to the nature/properties of the product

Hydrosolubility: Not applicable/Not available due to the nature/properties of the product

Liposolubility: Not applicable/Not available due to the nature/properties of the product

Partition coefficient n-octanol/water (log value): Not applicable/Not available due to the nature/properties of the product

Vapour pressure: Not applicable/Not available due to the nature/properties of the product

Absolute density: Not applicable/Not available due to the nature/properties of the product

Relative density: 1,21

Relative vapour density: Not applicable/Not available due to the nature/properties of the product

Particle characteristics: Not applicable/Not available due to the nature/properties of the product

#### 9.2 Other information

Viscosity: Not applicable/Not available due to the nature/properties of the product

Explosive properties: Not applicable/Not available due to the nature/properties of the product

Oxidizing properties: Not applicable/Not available due to the nature/properties of the product

Dropping point: Not applicable/Not available due to the nature/properties of the product

Blink: Not applicable/Not available due to the nature/properties of the product

### SECTION 10: STABILITY AND REACTIVITY.

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### 10.1 Reactivity.

The product does not present hazards by their reactivity.

### 10.2 Chemical stability.

Unstable in contact with:

- Bases.

### 10.3 Possibility of hazardous reactions.

Neutralization can occur on contact with bases.

### 10.4 Conditions to avoid.

- Avoid contact with bases.

### 10.5 Incompatible materials.

Avoid the following materials:

- Bases.

### 10.6 Hazardous decomposition products.

Depending on conditions of use, can be generated the following products:

- Corrosive vapors or gases.

## SECTION 11: TOXICOLOGICAL INFORMATION.

### 11.1 Information on hazard classes as defined in Regulation (EC) N° 1272/2008.

Splatters in the eyes can cause irritation and reversible damage.

#### Toxicological information about the substances present in the composition.

Name	Acute toxicity			
	Type	Test	Kind	Value
zinc nitrate	Oral	LD50	Rat	1190 mg/kg bw [1]
		[1] Unknown		
	Dermal			
Inhalation				

CAS No: 7779-88-6      EC No: 231-943-8

a) acute toxicity;

Product classified:

Acute toxicity (Inhalation), Category 3: Toxic if inhaled.

Acute Toxicity Estimate (ATE):

Mixtures:

ATE (Inhalation) = 5 mg/l/4 h (Fumes)

ATE (Oral) = 17.713 mg/kg

b) skin corrosion/irritation;

Product classified:

Skin Corrosive, Category 1: Causes severe skin burns and eye damage.

c) serious eye damage/irritation;

Product classified:

Serious eye damage, Category 1: Causes serious eye damage.

d) respiratory or skin sensitisation;

Not conclusive data for classification.

e) germ cell mutagenicity;

Not conclusive data for classification.

f) carcinogenicity;

Not conclusive data for classification.

g) reproductive toxicity;

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Not conclusive data for classification.

h) STOT-single exposure;

Based on available data, the classification criteria are not met.

i) STOT-repeated exposure;

Not conclusive data for classification.

j) aspiration hazard;

Not conclusive data for classification.

### 11.2 Information on other hazards.

#### Endocrine disrupting properties

This product does not contain components with endocrine-disrupting properties with effects on human health.

#### Other information

There is no information available on other adverse health effects.

## SECTION 12: ECOLOGICAL INFORMATION.

### 12.1 Toxicity.

Name	Ecotoxicity			
	Type	Test	Kind	Value
zinc nitrate  CAS No: 7779-88-6    EC No: 231-943-8	Fish	LC50	Fish	12,4 mg/l (96 h) [1]
				[1] Bengtsson, B.E. 1974. The Effects of Zinc on the Mortality and Reproduction of the Minnow, Phoxinus phoxinus L. Arch.Environ.Contam.Toxicol. 2(4):342-355. "Taylor, D., B.G. Maddock, and G. Mance 1985. The Acute Toxicity of Nine ""Grey List"" Metals (Arsenic, Boron, Chromium, Copper, Lead, Nickel, Tin, Vanadium and Zinc) to Two Marine Fish Species:. Aquat.Toxicol. 7(3):135-144"
	Aquatic invertebrates			
	Aquatic plants			

### 12.2 Persistence and degradability.

No information is available regarding the biodegradability of the substances present.

No information is available on the degradability of the substances present.

No information is available about persistence and degradability of the product.

### 12.3 Bioaccumulative potential.

No information is available regarding the bioaccumulation of the substances present.

### 12.4 Mobility in soil.

No information is available about the mobility in soil.

The product must not be allowed to go into sewers or waterways.

Prevent penetration into the ground.

### 12.5 Results of PBT and vPvB assessment.

No information is available about the results of PBT and vPvB assessment of the product.

### 12.6 Endocrine disrupting properties.

This product doesn't contain components with environmental endocrine disrupting properties.

### 12.7 Other adverse effects.

No information is available about other adverse effects for the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS.

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### 13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

Follow the provisions of Directive 2008/98/EC regarding waste management.

## SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

**Land:** Transport by road: ADR, Transport by rail: RID.

Transport documentation: Consignment note and written instructions

**Sea:** Transport by ship: IMDG.

Transport documentation: Bill of lading

**Air:** Transport by plane: ICAO/IATA.

Transport document: Airway bill.

### 14.1 UN number or ID number.

UN No: UN3488

### 14.2 UN proper shipping name.

Description:

ADR/RID: UN 3488, TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. (CONTAINS ZINC NITRATE / NITRIC ACID), 6.1 (3) (8), PG I, (C/D)

IMDG: UN 3488, TOXIC BY INHALATION LIQUID, FLAMMABLE, CORROSIVE, N.O.S. (CONTAINS ZINC NITRATE / NITRIC ACID), 6.1 (3) (8), PG I

ICAO/IATA: PROHIBITED

### 14.3 Transport hazard class(es).

Class(es): 6.1

### 14.4 Packing group.

Packing group: I

### 14.5 Environmental hazards.

Marine pollutant: No

Transport by ship, FEM – Emergency sheets (F – Fire, S - Spills): F-E,S-D

### 14.6 Special precautions for user.

Labels: 6.1, 3, 8



Hazard number: 663

ADR LQ: 0

IMDG LQ: 0

ICAO LQ: Not applicable.

Provisions concerning carriage in bulk ADR: Not authorized carriage in bulk in accordance with ADR.

Proceed in accordance with point 6.

### 14.7 Maritime transport in bulk according to IMO instruments.

The product is not transported in bulk.

## SECTION 15: REGULATORY INFORMATION.

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

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The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.

Product classification according to Annex I of Directive 2012/18/EU (SEVESO III): N/A

The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.

The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

### Information on Annex I and Annex II of Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors:

CAS No	Name	Annex
7697-37-2	nitric acid ... %	I
7697-37-2	nitric acid ... %	I

Annex I: Restricted explosives precursor.

Annex II: Reportable explosives precursors.

### 15.2 Chemical safety assessment.

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

## SECTION 16: OTHER INFORMATION.

Complete text of the H phrases that appear in section 3:

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Classification codes:

Acute Tox. 1 : Acute toxicity (Inhalation), Category 1  
Acute Tox. 3 : Acute toxicity (Inhalation), Category 3  
Acute Tox. 4 : Acute toxicity (Oral), Category 4  
Aquatic Acute 1 : Acute toxicity to the aquatic environment, Category 1  
Aquatic Chronic 1 : Chronic effect to the aquatic environment, Category 1  
Aquatic Chronic 3 : Chronic effect to the aquatic environment, Category 3  
Eye Dam. 1 : Serious eye damage, Category 1  
Eye Irrit. 2 : Eye irritation, Category 2  
Flam. Liq. 2 : Flammable liquid, Category 2  
Ox. Liq. 2 : Oxidising liquid, Category 2  
Ox. Liq. 3 : Oxidising liquid, Category 3  
Ox. Sol. 2 : Oxidising solid, Category 2  
STOT SE 3 : Specific target organ toxicity following a single exposure, Category 3  
Skin Corr. 1 : Skin Corrosive, Category 1  
Skin Corr. 1A : Skin Corrosive, Category 1A  
Skin Irrit. 2 : Skin irritant, Category 2

Changes regarding to the previous version:

- Change in the hazard classification (SECTION 2.1).

-Continued on next page.-

# SAFETY DATA SHEET

(in accordance with Regulation (EU) 2020/878)

## MANNI-PLEX Mn-Zn



Version 1 Date of compilation: 20/12/2018

Version 6 (replaces version 5)

Revision date: 28/10/2022

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Print date: 28/10/2022

- Removal of precautionary statements/hazard statements/pictograms/signal word (SECTION 2.2).
- Addition of precautionary statements/hazard statements/pictograms/signal word (SECTION 2.2).
- Changes in the composition of the product (SECTION 3.2).
- Modification in the firefighting measures (SECTION 5.2).
- Modification in the firefighting measures (SECTION 5.3).
- Modifications in the accidental release measures (SECTION 6.1).
- Modifications in the handling and storage precautions (SECTION 7.1).
- Modifications in the handling and storage precautions (SECTION 7.2).
- Modification of exposure data (SECTION 8.1).
- Modification in the values of the physical and chemical properties (SECTION 9).
- Addition of ecotoxicity values (SECTION 11.1).
- Change in the hazard classification (SECTION 11.1).
- Addition of ecological information values (SECTION 12.1).
- Modification of the classification ADR/IMDG/ICAO/IATA/RID (SECTION 14).
- Addition of abbreviations and acronyms (SECTION 16).

### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards	On basis of test data
Health hazards	Calculation method
Environmental hazards	Calculation method

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

#### Abbreviations and acronyms used:

ADR/RID: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CEN: European Committee for Standardization.

EC50: Half maximal effective concentration.

PPE: Personal protection equipment.

IATA: International Air Transport Association.

ICAO: International Civil Aviation Organization.

IMDG: International Maritime Code for Dangerous Goods.

LC50: Lethal concentration, 50%.

LD50: Lethal dose, 50%.

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

#### Key literature references and sources for data:

<http://eur-lex.europa.eu/homepage.html>

<http://echa.europa.eu/>

Regulation (EU) 2020/878.

Regulation (EC) No 1907/2006.

Regulation (EC) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemical substances and mixtures (REACH).

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.