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## N5396 - Nickel 1,000 ppm AA Standard in 2% Nitric Acid

# Safety data sheet according to U.S.A. Federal Hazcom 2012

### SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: N5396

Product name Nickel 1,000 ppm AA Standard in 2% Nitric Acid

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

For Laboratory Use Only. Intended use

1.3. Details of the supplier of the safety data sheet

**EXAXOL CHEMICAL CORPORATION** Name Full address

14325 60 TH ST N

33760 CLEARWATER - FLORIDA District and Country

US

Tel. 1-727-524-7732 Fax 1-727-532-8221

e-mail address

info@exaxol.com

1.4. Emergency telephone number

1-800-255-3924 For urgent inquiries refer to ChemTel Inc.

#### **SECTION 2. Hazards identification.**

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

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.

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

Classification and Hazard Statement.

Carcinogenicity, category 1A Reproductive toxicity, category 1B Eye irritation, category 2 Skin irritation, category 2 Respiratory sensitization, category 1 Skin sensitization, category 1

May cause cancer. May damage fertility or the unborn child. Causes serious eye irritation. Causes skin irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.



Signal words: Danger

Hazard statements:

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May cause cancer. H360 May damage fertility or the unborn child.

H319 Causes serious eye irritation.

H315 Causes skin irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

Precautionary statements:

Prevention:

H350

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P261 Avoid breathing dust / fume / gas / mist / vapours / spray.

Wash skin thoroughly after handling. P264

P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves / protective clothing / eye protection / face protection.

P284 [In case of inadequate ventilation] wear respiratory protection.

Response:

P302+P352 IF ON SKIN: wash with plenty of water.

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

P321 Specific treatment (see label).

P362+P364 Take off contaminated clothing and wash it before reuse.

Storage:

P405 Store locked up.

Disposal:

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

2.2. Other hazards.

Environmental classification as for Reg. (EU) 1272/2008 (CLP):

The product is classified as hazardous for environment pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).

Classification and Hazard Statement.

Hazardous to the aquatic environment, chronic toxicity, category 3 Harmful to aquatic life with long lasting effects.

Hazard statements:

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

P273 Avoid release to the environment. Response:

Storage:

Disposal:

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

Additional hazards.

#### **SECTION 3. Composition/information on ingredients.**

#### 3.1. Substances.

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Information not relevant.

3.2. Mixtures.

Contains:

Identification. Conc. %. Classification: WATER

CAS. 7732-18-5 50 - 100

**NITRIC ACID** 

CAS. 7697-37-2 1 - 3 Oxidising liquid, category 3

H272, Skin corrosion, category 1A H314

Nickel(II) Nitrate Hexahydrate

CAS. 13478-00-7 0.5 - 1

Note: Upper limit is not included into the range.

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

#### **SECTION 4. First aid measures.**

#### 4.1. Description of first aid measures.

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.

INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

#### **SECTION 5. Firefighting measures.**

#### 5.1. Extinguishing media.

#### SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide and chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

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Do not use jets of water.

Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

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

#### HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

If large quantities of the product are involved in a fire, they can make it considerably worse. Do not breathe combustion products.

#### 5.3. Advice for firefighters.

#### GENERAL INFORMATION

In the case of fire, use jets of water to cool the containers to prevent the risk of explosions (product decomposition and excess pressure) and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Remove all containers containing the product from the fire, if it is safe to do so.

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).

#### SECTION 6. Accidental release measures.

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

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

#### 6.2. Environmental precautions.

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

#### 6.4. Reference to other sections.

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

### **SECTION 7. Handling and storage.**

#### 7.1. Precautions for safe handling.

Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours

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or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid leakage of the product into the environment.

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

Store only in the original container. Store in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials, see section 10 for details.

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

Information not available.

#### SECTION 8. Exposure controls/personal protection.

#### 8.1. Control parameters.

#### Regulatory References:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	OSHA-PEL	Occupational Exposure Limits - Limits for Air Contaminants TABLE Z-1-
		1910.1000.
LISΔ	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA)

USA CAL/OSHA-PEL California Division of Occupational Safety and Health (Cal-OSHA)

Permissible Exposure Limits (PELs).

EU OEL EU Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC;

Directive 2000/39/EC.

TLV-ACGIH ACGIH 2014

NITRIC ACID					
Threshold Limit Value.					
Туре	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH	-	5.2	2	10.3	4
OEL	EU			2.6	1
OSHA	USA	5	2		
CAL/OSHA	USA	5	2	10	4
NIOSH	USA	5	2	10	4

#### 8.2. Exposure controls.

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must comply with current regulations.

Provide an emergency shower with face and eye wash station.

The product must be used inside a closed circuit, in a well-ventilated environment and with strong localised aspiration systems in place.

#### HAND PROTECTION

Protect hands with category III work gloves (OSHA 29 CFR 1910.138).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

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#### SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

#### EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

#### RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84 and OSHA 29 CFR 1910.134.

#### ENVIRONMENTAL EXPOSURE CONTROLS.

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

#### **SECTION 9. Physical and chemical properties.**

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

Not available. **Appearance** Colour Not available. Odour Not available Odour threshold. Not available. Not available. Melting point / freezing point. Not available. Initial boiling point. Not available Boiling range. Not available. Flash point. > 93 °C. Evaporation Rate Not available. Flammability of solids and gases Not available. Lower inflammability limit. Not available. Upper inflammability limit. Not available. Lower explosive limit. Not available Upper explosive limit. Not available. Vapour pressure. Not available. Vapour density Not available Relative density. Not available Solubility Not available. Partition coefficient: n-octanol/water Not available. Not available. Auto-ignition temperature. Decomposition temperature. Not available. Viscosity Not available. Explosive properties Not available. Oxidising properties Not available.

#### 9.2. Other information.

Information not available.

#### **SECTION 10. Stability and reactivity.**

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10.1. Reactivity.

NITRIC ACID: decomposes at 84°C with possibility of self-ignition.

10.2. Chemical stability.

Information not available.

10.3. Possibility of hazardous reactions.

The product may react violently with water.

10.4. Conditions to avoid.

Avoid overheating. Prevent moisture or water from penetrating inside the containers.

NITRIC ACID: exposure to heat and light.

10.5. Incompatible materials.

NITRIC ACID: flammable substances, reducing substances, alcohol, basic substances and metals; acetone, acetic acid, acetic anhydride and certain plastics.

10.6. Hazardous decomposition products.

NITRIC ACID: nitric oxides.

#### **SECTION 11. Toxicological information.**

#### 11.1. Information on toxicological effects.

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification. It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

This product has a carcinogenic effect on human beings. Currently available data suggest a cause-effect relationship between human exposure to the substance contained in this product and cancer development.

This product has a teratogenic effect on human beings: damages fertility and/or has toxic effects on fetus development.

There is sufficient evidence to make us believe that the substance contained in the product is likely to affect the embryo-fetal development and/or the fetus development.

Acute effects: stinging eyes. Symptoms may include: rubescence, edema, pain and lachrymation.

Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

Acute effects: contact with skin may cause: irritation, erythema, edema, dryness and chapped skin.

Ingestion may cause health disorders, including stomach pain and sting, nausea and sickness.

Inhalation of this product causes sensitization, which may then give rise to a series of inflammatory episodes, most of all characterized by obstruction and affecting the respiratory system. Sometimes, sensitization phenomena arise together with evident rhinitis and asthma. Damages to the respiratory system depend on the inhaled quantity, on the product concentration in the working environment and on the exposure time.

Upon contact with skin, this product causes sensitization (dermatitis). Dermatitis derives from skin irritation on the areas which repeatedly come into contact with the sensitizing agent. Cutaneous lesions may include: erythemas, edemas, papules, vesicles, pustules, scurvies, ulcerations and exudative

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phenomena, whose intensity varies according to illness seriousness and affected areas. Erythemas, edemas and exudative phenomena prevail during the acute phase. Scurfy skin, dryness, ulcerations and skin thickening prevail during the chronic phase.

NITRIC ACID

LC50 (Inhalation).67 ppm/4h Rat

#### **SECTION 12. Ecological information.**

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity.

Information not available.

#### 12.2. Persistence and degradability.

NITRIC ACID

Solubility in water. > 1000000 mg/l

Biodegradability: Information not available.

#### 12.3. Bioaccumulative potential.

NITRIC ACID

Partition coefficient: n- < 3 octanol/water.

12.4. Mobility in soil.

Information not available.

#### 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.

#### **SECTION 13. Disposal considerations.**

#### 13.1. Waste treatment methods.

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to dangerous goods transport regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

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14.1. UN number.

UN: 3264 ADR / RID, IMDG,

**SECTION 14. Transport information.** 

IATA:

14.2. UN proper shipping name.

ADR / RID: **CORROSIVE** 

LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

CORROSIVE IMDG:

LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC

ACID)

IATA:

14.3. Transport hazard class(es).

ADR / RID: Class: 8 Label: 8

IMDG: Class: 8 Label: 8

IATA: Class: 8 Label: 8

14.4. Packing group.

ADR / RID, IMDG, Ш

IATA:

14.5. Environmental hazards.

ADR / RID: NO

14.6. Special precautions for user.

ADR / RID: Nr. Kemler: 80 Limited Tunnel Quantity 5 L restriction

code (E)

Special Provision: -

IMDG: EMS: F-A, S-B Limited Quantity 5 L

Packaging IATA: Cargo: Maximum quantity: 60 L instructions:

856 Pass.: Maximum Packaging

instructions: quantity: 5 L 852

Special Instructions: A3, A803

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14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code.

Information not relevant.

### **SECTION 15. Regulatory information.**

substance or mixture.

,	
15.1. Safety, health and environmental regulations/leg	gislation specific for the
U.S. Federal Regulations.	
Clean Air Act Section 112(b):	
No component(s) listed.	
Clean Air Act Section 602 Class I Substances:	
No component(s) listed.	
Clean Air Act Section 602 Class II Substances:	
No component(s) listed.	
Clean Water Act – Priority Pollutants:	
No component(s) listed.	
Clean Water Act – Toxic Pollutants:	
No component(s) listed.	
DEA List I Chemicals (Precursor Chemicals):	
No component(s) listed.	
DEA List II Chemicals (Essential Chemicals):	
No component(s) listed.	
EPA List of Lists:	
313 Category Code:	
7697-37-2	NITRIC ACID
EPCRA 302 EHS TPQ:	
7697-37-2	NITRIC ACID
EPCRA 304 EHS RQ:	
7697-37-2	NITRIC ACID
CERCLA RQ:	

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N5396 - Nickel 1,000 ppm AA Standard in 2% Nitric Acid Page n. 11/13 7697-37-2 NITRIC ACID EPCRA 313 TRI: NITRIC ACID 7697-37-2 RCRA Code: No component(s) listed. CAA 112 (r) RMP TQ: No component(s) listed. State Regulations. Massachussetts: 7697-37-2 NITRIC ACID Minnesota: 7697-37-2 NITRIC ACID New Jersey: 13478-00-7 Nickel(II) Nitrate Hexahydrate 7697-37-2 NITRIC ACID New York: 7697-37-2 NITRIC ACID Pennsylvania: 7697-37-2 NITRIC ACID California: 7697-37-2 NITRIC ACID Proposition 65: International Regulations. Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012: None. Substances subject to the Rotterdam Convention: None. Substances subject to the Stockholm Convention: None. Candadian WHMIS.

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Information not available.

#### **SECTION 16. Other information.**

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

Ox. Liq. 3 Oxidising liquid, category 3 Ox. Sol. 2 Oxidising solid, category 2 Carc. 1A Carcinogenicity, category 1A Muta. 2 Germ cell mutagenicity, category 2 Repr. 1B Reproductive toxicity, category 1B

STOT RE 1 Specific target organ toxicity - repeated exposure, category 1

Skin Corr. 1A Skin corrosion, category 1A Skin Corr. 1B Skin corrosion, category 1B Skin Corr. 1C Skin corrosion, category 1C Eye Dam. 1 Serious eye damage, category 1

Eye Irrit. 2 Eye irritation, category 2 Skin Irrit. 2 Skin irritation, category 2

Resp. Sens. 1 Respiratory sensitization, category 1 Skin Sens. 1 Skin sensitization, category 1

**Aquatic Acute 1** Hazardous to the aquatic environment, acute toxicity, category 1 **Aquatic Chronic 1** Hazardous to the aquatic environment, chronic toxicity, category 1 **Aquatic Chronic 2** Hazardous to the aquatic environment, chronic toxicity, category 2 **Aquatic Chronic 3** Hazardous to the aquatic environment, chronic toxicity, category 3 **Aquatic Chronic 4** Hazardous to the aquatic environment, chronic toxicity, category 4

H272 May intensify fire; oxidiser.

H350 May cause cancer.

H341 Suspected of causing genetic defects. H360 May damage fertility or the unborn child.

H372 Causes damage to organs through prolonged or repeated exposure.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage. H319 Causes serious eye irritation.

H315 Causes skin irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled. H334

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects. H413 May cause long lasting harmful effects to aquatic life.

#### LEGEND:

- 313 CATEGORY CODE: Emergency Planning and Community Right-to Know Act Section 313 Category Code
- ADR: European Agreement concerning the carriage of Dangerous goods by Road CAA 112 ® RMP TQ: Risk Management Plan Threshold Quantity (Clean Air Act Section 112®)
- CAS NUMBER: Chemical Abstract Service Number

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- · CE50: Effective concentration (required to induce a 50% effect)
- CERCLA RQ: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
- CLP: EC Regulation 1272/2008
- DEA: Drug Enforcement Administration
- EmS: Emergency Schedule
- EPA: US Environmental Protection Agency
- EPCRA: Emergency Planning and Community Right-to Know Act
- EPCRA 302 EHS TPQ: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
- EPCRA 304 EHS RQ: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
- EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PEL: Predicted exposure level
- RCRA Code: Resource Conservation and Recovery Act Code
- REL: Recommended exposure limit
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TSCA: Toxic Substances Control Act
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- WHMIS: Workplace Hazardous Materials Information System.

#### GENERAL BIBLIOGRAPHY:

- GHS rev. 3
- The Merck Index. 10th Edition
- Handling Chemical Safety
- Niosh Registry of Toxic Effects of Chemical Substances
- INRS Fiche Toxicologique (toxicological sheet)
- Patty Industrial Hygiene and Toxicology
- N.I. Sax Dangerous properties of Industrial Materials-7, 1989 Edition
- ECHA website
- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Comunication Standard (HCS 2012)
- IARC website
- List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112® of the Clean Air Act
- Massachussetts 105 CMR Department of public health 670.000: "Right to Know"
- Minensota Chapter 5206 Departement Of Labor and Industry Hazardous Substances, Employee "Right to Know".
- New Jersey Worker and Community Right to know Act N.J.S.A.
- NTP. 2011. Report on Carcinogens, 12th Edition.
- OSHA website
- Pennsylvania, Hazardous Substance List, Chapter 323

#### 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.