

Tenax Spa

INDURENTE MR50L

Revision nr.5
Dated 5/17/2019
Printed on 11/6/2020
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Replaced revision:4 (Dated 12/17/2018)

Safety Data Sheet

According to U.S.A. Federal Hazcom 2012

1. Identification

1.1. Product identifier

Product name **INDURENTE MR50L**
Chemical name and synonym **INDURENTE EPOSSIDICO LIQUIDO DI NATURA AMMINICO**

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

Intended use **LIQUID EPOXY HARDENER.**

Identified Uses	Industrial	Professional	Consumer
ADHESIVE SYSTEM/TREATMENT FOR STONE SECTOR	-	✓	-

1.3. Details of the supplier of the safety data sheet

Name **Tenax Spa**
Full address **Via I Maggio, 226**
District and Country **37020 Volargne Italy (VR)**
Tel. **+39 045 6887593**
Fax **+39 045 6862456**

e-mail address of the competent person responsible for the Safety Data Sheet

msds@tenax.it

Product distribution by:

Tenax Usa
7606 Whitehall Executive Center Drive Suite 400, 28273 Charlotte NC, US
Tel. 001 7045831173 - Fax 001 7045833166
info@tenaxusa.com

1.4. Emergency telephone number

For urgent inquiries refer to

Infotrac
US and Canada: 1-800-535-5053
Int'l: 1-352-323-3500
info@infotrac.net

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

Reproductive toxicity, category 2
Acute toxicity, category 4
Acute toxicity, category 4
Skin corrosion, category 1
Serious eye damage, category 1
Skin sensitization, category 1

Suspected of damaging fertility or the unborn child.
Harmful if swallowed.
Harmful in contact with skin.
Causes severe skin burns and eye damage.
Causes serious eye damage.
May cause an allergic skin reaction.

Hazard pictograms:



Signal words:

Danger

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2. Hazards identification ... / >>

Hazard statements:

- H361** Suspected of damaging fertility or the unborn child.
H302+H312 Harmful if swallowed or in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

Precautionary statements:

Prevention:

- P260** Do not breathe dust / fume / gas / mist / vapours / spray.
P202 Do not handle until all safety precautions have been read and understood.
P201 Obtain special instructions before use.
P280 Wear protective gloves/ protective clothing / eye protection / face protection.
P270 Do not eat, drink or smoke when using this product.
P264 Wash the hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.

Response:

- P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower. Immediately call a POISON CENTER / doctor / . . .
P310 Immediately call a POISON CENTER / doctor / . . .
P304+P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
P330 Rinse mouth.
P302+P352 IF ON SKIN: wash with plenty of water / . . .
P362+P364 Take off contaminated clothing and wash it before reuse.
P301+P312 IF SWALLOWED: Call a POISON CENTER / doctor / . . . / if you feel unwell.
P363 Wash contaminated clothing before reuse.

Storage:

- P405** Store locked up.

Disposal:

- P501** Dispose of contents / container according to applicable law.

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, acute toxicity, category 1 Very toxic to aquatic life.
Hazardous to the aquatic environment, chronic toxicity, category 1 Very toxic to aquatic life with long lasting effects.

Hazard pictograms:



Signal words: Warning

Hazard statements:

- H400** Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

- P273** Avoid release to the environment.

Response:

- P391** Collect spillage.

Storage:

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Disposal:

- P501** Dispose of contents / container according to applicable law.

Additional hazards

Information not available

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3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	Conc. %	Classification:
4-nonylphenol, branched		
CAS 84852-15-3	43.2	Reproductive toxicity, category 2 H361, Acute toxicity, category 4 H302, Skin corrosion, category 1B H314, Serious eye damage, category 1 H318, Hazardous to the aquatic environment, acute toxicity, category 1 H400 M=1, Hazardous to the aquatic environment, chronic toxicity, category 1 H410 M=1
EC 284-325-5		
INDEX 601-053-00-8		
2-piperazin-1-ylethylamine		
CAS 140-31-8	36.8	Acute toxicity, category 3 H311, Acute toxicity, category 4 H302, Skin corrosion, category 1B H314, Serious eye damage, category 1 H318, Skin sensitization, category 1 H317, Hazardous to the aquatic environment, chronic toxicity, category 3 H412
EC 205-411-0		
INDEX 612-105-00-4		
BENZYL ALCOHOL		
CAS 100-51-6	8.8	Acute toxicity, category 4 H302, Acute toxicity, category 4 H332
EC 202-859-9		
INDEX 603-057-00-5		
3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE		
CAS 2855-13-2	4	Acute toxicity, category 4 H302, Acute toxicity, category 4 H312, Skin corrosion, category 1B H314, Serious eye damage, category 1 H318, Skin sensitization, category 1 H317, Hazardous to the aquatic environment, chronic toxicity, category 3 H412
EC 220-666-8		
INDEX 612-067-00-9		
2,2'-DIAMINODIETHYLAMINE		
CAS 111-40-0	3	Acute toxicity, category 4 H302, Acute toxicity, category 4 H312, Skin corrosion, category 1B H314, Serious eye damage, category 1 H318, Skin sensitization, category 1 H317
EC 203-865-4		
INDEX 612-058-00-X		

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

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

Specific information on symptoms and effects caused by the product are unknown.

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

Information not available

5. Fire-fighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

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5. Fire-fighting measures ... / >>

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray. UNSUITABLE
EXTINGUISHING EQUIPMENT
None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE
Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

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

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

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

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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. 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.

7. Handling and storage

7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

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8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

USA	NIOSH-REL	NIOSH publication No. 2005-149, 3th printing, 2007.
USA	CAL/OSHA-PEL	California Division of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs).

Information not available

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. Personal protective equipment must comply with current regulations.

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.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear. 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, 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.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	
Colour	YELLOW-RED	
Odour	amino	
Odour threshold	Not available	
pH	Not available	
Melting point / freezing point	Not available	
Initial boiling point	Not available	
Boiling range	Not available	
Flash point	> 93 °C	(199,4 °F)
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	1.1	
Solubility	partially soluble in water	
Partition coefficient: n-octanol/water	Not available	
Auto-ignition temperature	Not available	
Decomposition temperature	Not available	
Viscosity	Not available	

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9. Physical and chemical properties ... / >>

Explosive properties Not available
Oxidising properties Not available

9.2. Other information

Information not available

10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

BENZYL ALCOHOL

Decomposes at temperatures above 870°C/1598°F.Possibility of explosion.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

BENZYL ALCOHOL

May react dangerously with: hydrobromic acid,iron,oxidising agents,sulphuric acid.Risk of explosion on contact with: phosphorus trichloride.

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE

May react dangerously with: strong oxidising agents,concentrated inorganic acids.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

BENZYL ALCOHOL

Avoid exposure to: air,sources of heat,naked flames.

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE

Avoid contact with: strong acids,strong oxidants.

10.5. Incompatible materials

BENZYL ALCOHOL

Incompatible with: sulphuric acid,oxidising substances,aluminium.

10.6. Hazardous decomposition products

Information not available

11. Toxicological information

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.

11.1. Information on toxicological effects

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

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11. Toxicological information ... / >>

Interactive effects

Information not available

ACUTE TOXICITY

2-piperazin-1-ylethylamine	
LD50 (Oral)	> 1470 mg/kg rat
LD50 (Dermal)	866 mg/kg rabbit
4-nonylphenol, branched	
LD50 (Oral)	1620 mg/kg rat
LD50 (Dermal)	2140 mg/kg rabbit
BENZYL ALCOHOL	
LD50 (Oral)	1230 mg/kg Rat
LD50 (Dermal)	2000 mg/kg Rabbit
LC50 (Inhalation)	> 4.1 mg/l/4h Rat
2,2'-DIAMINODIETHYLAMINE	
LD50 (Oral)	1140 mg/kg Rat
LD50 (Dermal)	1045 mg/kg Rabbit
LC50 (Inhalation)	1.8 mg/l/4h Rat

SKIN CORROSION / IRRITATION

Corrosive for the skin

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Suspected of damaging fertility or the unborn child

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

12. Ecological information

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

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12. Ecological information ... / >>

12.1. Toxicity

2-piperazin-1-ylethylamine

LC50 - for Fish	368 mg/l/96h poecilia reticulata
EC50 - for Crustacea	> 32 mg/l/48h daphnia magna
EC50 - for Algae / Aquatic Plants	494 mg/l/72h Scenedesmus capricornutum

4-nonylphenol, branched

LC50 - for Fish	0.128 mg/l/96h
EC50 - for Crustacea	0.137 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	0.323 mg/l/72h
EC10 for Algae / Aquatic Plants	0.012 mg/l/72h
Chronic NOEC for Fish	0.017 mg/l 4 d

12.2. Persistence and degradability

2-piperazin-1-ylethylamine
Degradability: information not available

4-nonylphenol, branched
Rapidly degradable

BENZYL ALCOHOL
Rapidly degradable

2,2'-DIAMINODIETHYLAMINE

Solubility in water 1000 - 10000 mg/l
Rapidly degradable

3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE

Solubility in water 1000 - 10000 mg/l
NOT rapidly degradable

12.3. Bioaccumulative potential

4-nonylphenol, branched

Partition coefficient: n-octanol/water	5.4
BCF	> 260

BENZYL ALCOHOL

Partition coefficient: n-octanol/water	1.1
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2,2'-DIAMINODIETHYLAMINE

Partition coefficient: n-octanol/water	-5.58
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12.4. Mobility in soil

4-nonylphenol, branched

Partition coefficient: soil/water	> 22
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12. Ecological information ... / >>

2,2'-DIAMINODIETHYLAMINE

Partition coefficient: soil/water 3.4

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 \geq than 0,1%.

12.6. Other adverse effects

Information not available

13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.

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

CONTAMINATED PACKAGING

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

14. Transport information

14.1. UN number

ADR / RID, IMDG, IATA: 2735

14.2. UN proper shipping name

ADR / RID: AMINES, LIQUID, CORROSIVE, N.O.S. (4-NONYLPHENOL, BRANCHED; 2-PIPERAZINO-1-ETHYLAMINE)

IMDG: AMINES, LIQUID, CORROSIVE, N.O.S. (4-NONYLPHENOL, BRANCHED; 2-PIPERAZINO-1-ETHYLAMINE)

IATA: AMINES, LIQUID, CORROSIVE, N.O.S. (4-NONYLPHENOL, BRANCHED; 2-PIPERAZINO-1-ETHYLAMINE)

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, IATA: II

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

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14. Transport information ... / >>

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 80	Limited Quantities: 1 L	Tunnel restriction code: (E)
	Special Provision: -		
IMDG:	EMS: F-A, S-B	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 30 L	Packaging instructions: 855
	Pass.:	Maximum quantity: 1 L	Packaging instructions: 851
	Special Instructions:	A3, A803	

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

Information not relevant

15. Regulatory information

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

U.S. Federal Regulations

TSCA:

All components are listed on TSCA Inventory.

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:

No component(s) listed.

EPCRA 302 EHS TPQ:

No component(s) listed.

EPCRA 304 EHS RQ:

No component(s) listed.

CERCLA RQ:

No component(s) listed.

EPCRA 313 TRI:

No component(s) listed.

RCRA Code:

No component(s) listed.

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations

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15. Regulatory information ... / >>

Massachusetts:

140-31-8 2-piperazin-1-ylethylamine
100-51-6 BENZYL ALCOHOL
111-40-0 2,2'-DIAMINODIETHYLAMINE

Minnesota:

100-51-6 BENZYL ALCOHOL
111-40-0 2,2'-DIAMINODIETHYLAMINE

New Jersey:

140-31-8 2-piperazin-1-ylethylamine
2855-13-2 3-AMINOMETHYL 3,5,5-TRIMETHYLCYCLOHEXYLAMINE
111-40-0 2,2'-DIAMINODIETHYLAMINE

New York:

No component(s) listed.

Pennsylvania:

140-31-8 2-piperazin-1-ylethylamine
100-51-6 BENZYL ALCOHOL
111-40-0 2,2'-DIAMINODIETHYLAMINE

California:

111-40-0 2,2'-DIAMINODIETHYLAMINE

Proposition 65:

This product does not contain any substances know to the State of California to cause cancer, reproductive harm or birth defects.

International Regulations

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

4-nonylphenol, branched - (NONYLPHENOLS)

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Candadian WHMIS

Information not available

16. Other information

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

H361 Suspected of damaging fertility or the unborn child.
H311 Toxic in contact with skin.
H302+H312 Harmful if swallowed or in contact with skin.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

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
- 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

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16. Other information ... / >>

- 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
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

- 6 NYCRR part 597
- Cal/OSHA website
- California Safe Drinking Water and Toxic Enforcement Act
- EPA website
- Hazard Communication 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
- Massachusetts 105 CMR Department of public health 670.000: "Right to Know"
- Minnesota Chapter 5206 Department 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.

CALCULATION METHODS FOR CLASSIFICATION

Product classification derives from criteria established by the OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200), unless determined otherwise in Section 11 and 12. The data for evaluation of chemical-physical properties are reported in section 9.

Changes to previous review:

The following sections were modified:

03 / 11 / 12 / 14 / 15.