Safety Data Sheet
acc. to OSHA HCS

Printing date 11/23/2015 Reviewed on 11/23/2015

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1: Identification

· **Product identifier**

· ***Trade name:*** **CREATININE REAGENT 1**

· *Article number:* 77331A / 79331A
· *Synonyms* EON 100 CREATININE R1/ EON 300 CREATININE R1.
· ***Relevant identified uses of the substance or mixture and uses advised against***
· *Application of the substance / the mixture*
Reagent for IN VITRO diagnostic
Product included in kit(s) :
- Kit composed of two reagents : 77331 / 79331

· **Details of the supplier of the safety data sheet**
· ***Manufacturer/Supplier:***
ELITech Clinical Systems SAS
Zone Industrielle
61500 Sées • France
Tel : +33 (0)2 33 81 21 00
Fax : +33 (0)2 33 28 77 51
www.elitechgroup.com
MSDS.ECS-SAS@elitechgroup.com

· ***Information department:*** Product safety department
· ***Emergency telephone number:*** Contact your distributor or poison control center in your country.

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2: Hazard(s) identification

· **Classification of the substance or mixture**
· ***Classification according to Regulation (EC) No 1272/2008***


GHS06

Acute Tox. 3	H301	Toxic if swallowed.
Acute Tox. 3	H311	Toxic in contact with skin.


GHS08

STOT SE 2	H371	May cause damage to organs.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.


GHS05

Met. Corr.1	H290	May be corrosive to metals.
Skin Corr. 1B	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

· **Label elements**
· ***Labelling according to Regulation (EC) No 1272/2008*** The product is classified and labeled according to the CLP regulation.
· *Hazard pictograms*


GHS05 GHS06 GHS08

· *Signal word* Danger

· *Hazard-determining components of labeling:*
tetramethylammonium hydroxide
· *Hazard statements*
May be corrosive to metals.
Toxic if swallowed or in contact with skin.
Causes severe skin burns and eye damage.
May cause damage to organs.
May cause damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.
· *Precautionary statements*
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe mist/vapours/spray.
Avoid release to the environment.
IF exposed or concerned: Call a POISON CENTER/doctor.
Get medical advice/attention if you feel unwell.

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Absorb spillage to prevent material damage.

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3: Composition/information on ingredients

· **Chemical characterization: Mixtures**
· ***Description:***
Mixture of substances.
Aqueous solution.

· ***Dangerous components:***		
75-59-2	tetramethylammonium hydroxide Acute Tox. 2, H300; Acute Tox. 1, H310; STOT SE 1, H370; STOT RE 1, H372; Skin Corr. 1B, H314; Aquatic Chronic 2, H411	2.5-10%
10043-35-3	boric acid Repr. 1B, H360FD	< 1.0%
151-21-3	sodium dodecyl sulphate Flam. Sol. 1, H228; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; STOT SE 3, H335; Aquatic Chronic 3, H412	< 1.0%

· ***SVHC***	
10043-35-3	boric acid

4: First-aid measures

· **Description of first aid measures**
· ***General information:***
Immediately remove any clothing soiled by the product.
IF exposed or concerned: Get medical advice/attention.
Show this safety data sheet to the doctor in attendance.
· ***After inhalation:***
Supply fresh air.
Move out of dangerous area.
If required, provide artificial respiration.
Seek medical advice.
· ***After skin contact:***
Immediately wash with water and soap and rinse thoroughly.
Seek medical advice.
· ***After eye contact:***
Protect unharmed eye.
Remove contact lenses, if present and easy to do.
Rinse opened eye for several minutes under running water. Then consult a doctor.
· ***After swallowing:***
Never give anything by mouth to an unconscious person.
Rinse out mouth.
Do not induce vomiting.
Seek immediate advice from a doctor or a poison control center.
· ***Information for doctor:***
· *Most important symptoms and effects, both acute and delayed*
May cause damage to organs.
May cause damage to organs through prolonged or repeated exposure.
· *Indication of any immediate medical attention and special treatment needed* Data not available

5: Fire-fighting measures

· **Extinguishing media**
· ***Suitable extinguishing agents:***
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture**
Formation of hazardous vapours/gases is possible during heating or in case of fire.
Boron oxides
Carbon oxides (COx)
Nitrogen oxides (NOx)
· **Advice for firefighters**
· ***Protective equipment:*** As in any fire, wear a respiratory protective device, and full protective gear.

6: Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Avoid physical contact with material.

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· **Environmental precautions:** Prevent seepage into sewage system, workpits and cellars.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, universal binders, sawdust).
Clean the affected area carefully.
Send for recovery or disposal in suitable receptacles.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7: Handling and storage

· **Handling:**
· ***Precautions for safe handling***
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Do not handle until all safety precautions have been read and understood.
Prevent formation of aerosols.
Avoid physical contact with material.
Observe the warnings on the label.
· ***Information about protection against explosions and fires:*** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· ***Storage:***
· *Requirements to be met by storerooms and receptacles:* Keep only in original container.
· *Information about storage in one common storage facility:* Store away from incompatible materials (see section 10).
· *Further information about storage conditions:*
Keep receptacle tightly sealed.
Protect the product from light. Avoid exposure to heat.
· *Recommended storage temperature:* 15-25 °C
· **Specific end use(s)** Data not available.

8: Exposure controls/personal protection

· **Additional information about design of technical systems:** Eyewash fountain and safety shower in the area of storage and use.

· **Control parameters**

· ***Components with limit values that require monitoring at the workplace:***	
10043-35-3 boric acid	
TLV (USA)	Short-term value: 6* mg/m³ Long-term value: 2* mg/m³ *as inhalable fraction

· *Additional information:* The lists that were valid during the creation were used as basis.

· **Exposure controls**
· ***Personal protective equipment:***
· *General protective and hygienic measures:*
The usual precautionary measures for handling chemicals should be followed.
Do not eat, drink, smoke or sniff while working.
Take off contaminated clothing and wash before reuse.
Wash hands before breaks and at the end of work.
Do not handle until all safety precautions have been read and understood.
Do not inhale gases / fumes / aerosols.
Store protective clothing separately.
Avoid physical contact with material.
The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
· *Breathing equipment:*
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Suitable respiratory protective device recommended.
Use equipment tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
· *Protection of hands:*


Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Use equipment tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
· *Material of gloves*
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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· *Penetration time of glove material* The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· *Eye protection:*

Wear face shield/eye protection.

Use equipment tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
· *Body protection:* Protective work clothing

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9: Physical and chemical properties

· **Information on basic physical and chemical properties**	
· ***General Information***	
· *Appearance:*	
Form:	Liquid
Color:	Colorless
· *Odor:*	Odorless
· ***pH-value at 20 °C (68 °F):***	13
· ***Change in condition***	
Melting point/Melting range:	Not applicable
Boiling point/Boiling range:	Not determined.
Solidification point:	Not determined
· ***Flash point:***	Not applicable.
· ***Flammability (solid, gaseous):***	Not applicable.
· ***Ignition temperature:***	Not determined
· *Decomposition temperature:*	Not determined.
· ***Auto igniting:***	Product is not selfigniting.
· ***Danger of explosion:***	Product does not present an explosion hazard.
· ***Vapor pressure:***	Not determined.
· ***Density:***	
Relative density at 20 °C (68 °F)	1.017 g/cm³ (8.487 lbs/gal)
Vapour density	Not determined.
Evaporation rate	Not determined
· ***Solubility in / Miscibility with***	
Water:	Miscible
· ***Partition coefficient (n-octanol/water):***	Not determined
· ***Viscosity:***	
Dynamic:	Not determined.
· **Other information**	No further relevant information available.

10: Stability and reactivity

· **Reactivity** See § Possibility of hazardous reactions.
· **Chemical stability** Stable under recommended storage conditions.
· ***Thermal decomposition / conditions to be avoided:*** Formation of hazardous vapours/gaz is possible during heating.
· **Possibility of hazardous reactions** No dangerous reactions if used according to specifications.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:**
Strong oxidizing agents, strong acids
Metallic aluminium
· **Hazardous decomposition products:**
Dangerous decomposition products may be formed.
Methanol
Amines
Nitrogen oxides (NOx)
Carbon oxides (COx)
Boron oxides

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11: Toxicological information

· **Information on toxicological effects**
· ***Acute toxicity:***
Toxic if swallowed or in contact with skin.

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· *LD/LC50 values that are relevant for classification:*

ATE (Acute Toxicity Estimates)		
Oral	LD50	186 mg/kg (rat)
Dermal	LD50	619 mg/kg (rat)
Inhalative	LC50/4 h	350 mg/l (rat)

75-59-2 tetramethylammonium hydroxide		
Oral	LD50	7.5 mg/kg (rat)
Dermal	LD50	25 mg/kg (rat)
151-21-3 sodium dodecyl sulphate		
Oral	LD50	1288 mg/kg (rat)
Inhalative	LC50/1h	>3900 mg/m3 (rat)
10043-35-3 boric acid		
Oral	LD50	2660 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
Inhalative	LC50/4 h	>2.03 mg/l (rat)

· *Primary irritant effect:*
· *on the skin:*
Toxic if absorbed through skin.
Causes severe skin burns and eye damage.
· *on the eye:*
Causes serious eye damage.
· *Inhalation:*
May be harmful by inhalation.
May cause irritations or burns of mucous.
· *Ingestion:*
May cause irritations or burns of mucous.
Toxic if swallowed.
· *Sensitization:* Based on available data, the classification criteria are not met.
· ***Additional toxicological information:***
May cause damage to organs.
May cause damage to organs through prolonged or repeated exposure.
A corrosive effect cannot be ruled out because of the pH value.
· *Carcinogenic categories*
· *IARC (International Agency for Research on Cancer)* None of the ingredient is listed.
· *NTP (National Toxicology Program)* None of the ingredient is listed.
· **Aspiration hazard :** Not classified.

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12: Ecological information

· **Toxicity**
· ***Aquatic toxicity:***
Information on components:

75-59-2 tetramethylammonium hydroxide	
EC50/48h	3 mg/l (Daphnia)
LC50/96h	100 mg/l (Pimephales promelas)
EC50/72h	96 mg/l (Pseudokirchneriella subcapitata)
151-21-3 sodium dodecyl sulphate	
LC50/96h	3.6 mg/l (Onchorhyncus mykiss)
NOEC - 7d	0.684 mg/L (Daphnia)
10043-35-3 boric acid	
EC50/48h	133 mg/l (Daphnia) ECOTOX Database
LC50/96h	50-100 mg/l (Onchorhyncus mykiss) ECOTOX database
	279 mg/l (Ptychocheilus lucius)
LC0/96h	> 1021 mg/l (Lepomis macrochirus)
LC50/21d	53.2 mg/L (Daphnia)

· **Persistence and degradability** Data not available
· **Behavior in environmental systems:**
· ***Bioaccumulative potential*** Data not available
· ***Mobility in soil*** Data not available
· **Additional ecological information:**
· ***General notes:***
At present there are no ecotoxicological assessments.
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Disposal procedures have to be respected, see Section 13.

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· **Other adverse effects** No further relevant information available.

13: Disposal considerations

· **Waste treatment methods**
· ***Recommendation:*** Disposal must be made according to official regulations.

· **Uncleaned packagings:**
· ***Recommendation:*** Disposal must be made according to official regulations.
· ***Primary packaging:*** Plastic vial (composed of polyethylene high density)

14: Transport information

· **UN-Number**	
· ***DOT, ADR, IMDG, IATA***	UN3267
· **UN proper shipping name**	
· ***DOT***	Corrosive liquid, basic, organic, n.o.s. (Tetramethylammonium hydroxide solution)
· ***ADR***	3267 Corrosive liquid, basic, organic, n.o.s. (Tetramethylammonium hydroxide solution)
· ***IMDG, IATA***	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION)
· **Transport hazard class(es)**	
· ***DOT***	
	
· *Class*	8 Corrosive substances
· *Label*	8
· ***ADR, IMDG, IATA***	
	
· *Class*	8 Corrosive substances
· *Label*	8
· **Packing group**	
· ***DOT, ADR, IMDG, IATA***	III
· **Environmental hazards:**	
· ***Marine pollutant:***	No
· **Special precautions for user**	Warning: Corrosive substances
· *Danger code (Kemler):*	88
· *EMS Number:*	F-A,S-B
· *Segregation groups*	Alkalis
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	UN3267, Corrosive liquid, basic, organic, n.o.s. (Tetramethylammonium hydroxide solution), 8, III

15: Regulatory information

· ***SARA***
· *Section 302/304 (40CFR355.30 / 40CFR355.40):* None of the ingredients is listed.
· *Section 313 (Specific toxic chemical listings):* Not regulated.
· ***TSCA (Toxic Substances Control Act):*** This product is regulated by the Food and Drug Administration; it is exempt from requirements of TSCA.
· ***Proposition 65***
· *Chemicals known to cause cancer:* None of the ingredients is listed.
· *Chemicals known to cause reproductive toxicity for females:* None of the ingredients is listed.
· *Chemicals known to cause reproductive toxicity for males:* None of the ingredients is listed.
· *Chemicals known to cause developmental toxicity:* None of the ingredient is listed.

· ***Carcinogenic categories***

· *EPA (Environmental Protection Agency)*		
10043-35-3	boric acid	I (oral)

· *TLV (Threshold Limit Value established by ACGIH)*		
10043-35-3	boric acid	A4

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· *NIOSH-Ca (National Institute for Occupational Safety and Health)* None of the ingredient is listed.
· *OSHA-Ca (Occupational Safety & Health Administration)* None of the ingredient is listed.
· **U. S. State Regulations:**
· ***PA-RTK*** None of the ingredient is listed.
· ***NJ-RTK*** None of the ingredient is listed.
· ***MA-RTK*** None of the ingredient is in reportable quantity.
· ***RI-RTK*** None of the ingredient is in reportable quantity.
· **US Federal Regulation** This mixture is a component of an FDA-regulated IN VITRO diagnostic medical device.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· *Relevant phrases*
H228 Flammable solid.
H300 Fatal if swallowed.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H360FD May damage fertility. May damage the unborn child.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

· **Department issuing MSDS:** Product safety department
· **Contact:** Product safety department
· ***Abbreviations and acronyms:***
SVHC : Substances of Very High Concern
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOEC : No Observed Effect Concentration
EC50: Effective concentration, 50 percent
IC50 : Inhibitory concentration, 50 percent.
Flam. Sol. 1: Flammable solids, Hazard Category 1
Met. Corr.1: Corrosive to metals, Hazard Category 1
Acute Tox. 2: Acute toxicity, Hazard Category 2
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
Acute Tox. 1: Acute toxicity, Hazard Category 1
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
Repr. 1B: Reproductive toxicity, Hazard Category 1B
STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1
STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2
Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

· **** Data compared to the previous version altered.***

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1: Identification

· **Product identifier**

· ***Trade name:*** **CREATININE REAGENT 2**

· *Article number:* 77331B / 79331B
· *Synonyms* EON 100 CREATININE R2 / EON 300 CREATININE R2.
· ***Relevant identified uses of the substance or mixture and uses advised against***
· *Application of the substance / the mixture*
Reagent for IN VITRO diagnostic
Product included in kit(s) :
- Kit composed of two reagents : 77331 / 79331

· **Details of the supplier of the safety data sheet**
· ***Manufacturer/Supplier:***
ELITech Clinical Systems SAS
Zone Industrielle
61500 Sées • France
Tel : +33 (0)2 33 81 21 00
Fax : +33 (0)2 33 28 77 51
www.elitechgroup.com
MSDS.ECS-SAS@elitechgroup.com

· ***Information department:*** Product safety department
· ***Emergency telephone number:*** Contact your distributor or poison control center in your country.

2: Hazard(s) identification

· **Classification of the substance or mixture**
· ***Classification according to Regulation (EC) No 1272/2008*** The product is not classified according to the CLP regulation.

· **Label elements**
· ***Labelling according to Regulation (EC) No 1272/2008*** -
· *Hazard pictograms* -
· *Signal word* -
· *Hazard statements* -

3: Composition/information on ingredients

· **Chemical characterization: Mixtures**
· ***Description:***
Mixture of substances.
Aqueous solution.

· ***Dangerous components:*** No dangereous component in reportable quantity.

4: First-aid measures

· **Description of first aid measures**
· ***General information:*** Show this safety data sheet to the doctor in attendance.
· ***After inhalation:***
Supply fresh air.
Move out of dangerous area.
If required, provide artificial respiration.
If symptoms appear, seek medical advice.
· ***After skin contact:***
Rinse with water.
If symptoms appear, seek medical advice.
· ***After eye contact:***
Protect unharmed eye.
Remove contact lenses, if present and easy to do.
Rinse opened eye for several minutes under running water. If symptoms appear, seek medical advice.
· ***After swallowing:***
Never give anything by mouth to an unconscious person.
Rinse out mouth.
Do not induce vomiting.
Seek advice from a doctor or a poison control center.
· ***Information for doctor:***
· *Most important symptoms and effects, both acute and delayed* Data not available
· *Indication of any immediate medical attention and special treatment needed* Data not available

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5: Fire-fighting measures

· **Extinguishing media**
· ***Suitable extinguishing agents:***
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
Carbon oxides (COx)
Nitrogen oxides (NOx)
· **Advice for firefighters**
· ***Protective equipment:*** As in any fire, wear a respiratory protective device, and full protective gear.

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6: Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Wear protective clothing.
Avoid physical contact with material.
· **Environmental precautions:** Prevent seepage into sewage system, workpits and cellars.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, universal binders, sawdust).
Do not allow to dry out
88-89-1 Picric acid (< 0.3 %) : explosive when dry and forms very sensitive explosive metallic compounds whih metals.
Not mix with other waste.
Clean the affected area carefully.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7: Handling and storage

· **Handling:**
· ***Precautions for safe handling***
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Avoid physical contact with material.
Observe the warnings on the label.
· ***Information about protection against explosions and fires:***
88-89-1 Picric acid (< 1 %) : explosive when dry and forms very sensitive explosive metallic compounds whih metals.

· **Conditions for safe storage, including any incompatibilities**
· ***Storage:***
· *Requirements to be met by storerooms and receptacles:* No special requirements.
· *Information about storage in one common storage facility:* Not required.
· *Further information about storage conditions:* Protect the product from light. Avoid exposure to heat.
· *Recommended storage temperature:* 15-25 °C
· **Specific end use(s)** No further relevant information available.

8: Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**
· ***Components with limit values that require monitoring at the workplace:***
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
Information on components:

88-89-1 picric acid (<1%)	
PEL (USA)	Long-term value: 0.1 mg/m³
REL (USA)	Short-term value: 0.3 mg/m³ Long-term value: 0.1 mg/m³
TLV (USA)	Long-term value: 0.1 mg/m³

· *Additional information:* The lists that were valid during the creation were used as basis.

· **Exposure controls**
· ***Personal protective equipment:***
· *General protective and hygienic measures:*
The usual precautionary measures for handling chemicals should be followed.
Wash hands before breaks and at the end of work.
Avoid physical contact with material.
The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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· *Breathing equipment:*
Under normal conditions, the use of these products should not require respiratory protection. If overexposure should occur and ventilation is not adequate to maintain airborne concentrations at acceptable levels, the use of respiratory protection should be evaluated by a qualified professional.
Use equipment tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
· *Protection of hands:*

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Use equipment tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
· *Material of gloves*
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· *Penetration time of glove material* The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· *Eye protection:*
Goggles recommended during refilling.
Use equipment tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
· *Body protection:* Protective work clothing

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9: Physical and chemical properties

· **Information on basic physical and chemical properties**	
· ***General Information***	
· *Appearance:*	
Form:	Liquid
Color:	Yellow
· *Odor:*	Odorless
· ***pH-value:***	1.6
· ***Change in condition***	
Melting point/Melting range:	Not applicable
Boiling point/Boiling range:	Not determined.
Solidification point:	Not determined
· ***Flash point:***	Not applicable.
· ***Flammability (solid, gaseous):***	Not applicable.
· ***Ignition temperature:***	Not determined
· *Decomposition temperature:*	Not determined
· ***Auto igniting:***	Product is not selfigniting.
· ***Danger of explosion:***	Product does not present an explosion hazard.
· ***Vapor pressure:***	Not determined.
· ***Density:***	
Relative density at 20 °C (68 °F)	0.996 g/cm³ (8.312 lbs/gal)
Vapour density	Not determined
Evaporation rate	Not determined
· ***Solubility in / Miscibility with***	
Water:	Miscible
· ***Partition coefficient (n-octanol/water):***	Not determined
· ***Viscosity:***	
Dynamic:	Not determined
· **Other information**	No further relevant information available.

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10: Stability and reactivity

· **Reactivity** See § Possibility of hazardous reactions.
· **Chemical stability** Stable under recommended storage conditions.
· ***Thermal decomposition / conditions to be avoided:*** No decomposition if used according to specifications.
· **Possibility of hazardous reactions**
Reacts with powdered metals.
88-89-1 Picric acid (< 1 %) : explosive when dry and forms very sensitive explosive metallic compounds whih metals.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:**
Bases.
Risk of explosion with :

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Metals.
Light metals.
Ammonia.
Amines, aromatic hydrocarbons, concrete.
· **Hazardous decomposition products:**
Formation of toxic gases is possible during heating or in case of fire.
Carbon oxides (COx)
Nitrogen oxides (NOx)
· **Additional information:** Stable at the recommended storage temperature and if protected from light. Avoid exposure to heat.

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11: Toxicological information

· **Information on toxicological effects**
· ***Acute toxicity:*** Based on available data, the classification criteria are not met.

· *LD/LC50 values that are relevant for classification:*

ATE (Acute Toxicity Estimates)		
Oral	LD50	> 5000 mg/kg (-)
Dermal	LD50	> 5000 mg/kg (-)
Inhalative	LC50	475 mg/L (-)

· *Primary irritant effect:*
· *on the skin:* May cause irritating effect.
· *on the eye:* May cause irritating effect.
· *Inhalation:*
May be harmful by inhalation.
May cause irritating effect.
· *Ingestion:* May be harmful if swallowed.
· *Sensitization:* Based on available data, the classification criteria are not met.
· ***Additional toxicological information:***
· *Carcinogenic categories*
· *IARC (International Agency for Research on Cancer)* None of the ingredient is listed.
· *NTP (National Toxicology Program)* None of the ingredient is listed.

12: Ecological information

· **Toxicity**
· ***Aquatic toxicity:*** At present there are no ecotoxicological assessments.
· **Persistence and degradability** Data not available
· **Behavior in environmental systems:**
· ***Bioaccumulative potential*** Data not available
· ***Mobility in soil*** Data not available
· **Additional ecological information:**
· ***General notes:***
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Disposal procedures have to be respected, see Section 13.
· **Other adverse effects** No further relevant information available.

13: Disposal considerations

· **Waste treatment methods**
· ***Recommendation:*** Disposal must be made according to official regulations.

· **Uncleaned packagings:**
· ***Recommendation:*** Disposal must be made according to official regulations.
· ***Primary packaging:*** Plastic vial (composed of polyethylene high density)

14: Transport information

· **UN-Number**	Not applicable
· ***DOT, ADR, ADN, IMDG, IATA***	-
· **UN proper shipping name**	
· ***DOT, ADR, ADN, IMDG, IATA***	-
· **Transport hazard class(es)**	
· ***DOT, ADR, ADN, IMDG, IATA***	
· *Class*	-
· **Packing group**	
· ***DOT, ADR, IMDG, IATA***	-

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· **Environmental hazards:**	
· ***Marine pollutant:***	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	-

15: Regulatory information

· ***SARA***
· *Section 302/304 (40CFR355.30 / 40CFR355.40):* None of the ingredients is listed.
· *Section 313 (Specific toxic chemical listings):* Not regulated.
· ***TSCA (Toxic Substances Control Act):*** This product is regulated by the Food and Drug Administration; it is exempt from requirements of TSCA.
· ***Proposition 65***
· *Chemicals known to cause cancer:* None of the ingredients is listed.
· *Chemicals known to cause reproductive toxicity for females:* None of the ingredients is listed.
· *Chemicals known to cause reproductive toxicity for males:* None of the ingredients is listed.
· *Chemicals known to cause developmental toxicity:* None of the ingredient is listed.

· ***Carcinogenic categories***
· *EPA (Environmental Protection Agency)* None of the ingredient is listed.
· *TLV (Threshold Limit Value established by ACGIH)* None of the ingredient is listed.
· *NIOSH-Ca (National Institute for Occupational Safety and Health)* None of the ingredient is listed.
· *OSHA-Ca (Occupational Safety & Health Administration)* None of the ingredient is listed.
· **U. S. State Regulations:**

· ***PA-RTK***	
88-89-1	picric acid

· ***NJ-RTK***	
88-89-1	picric acid

· ***MA-RTK***	
88-89-1	picric acid

· ***RI-RTK***	
88-89-1	picric acid

· **US Federal Regulation** This mixture is a component of an FDA-regulated IN VITRO diagnostic medical device.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Product safety department
· **Contact:** Product safety department
· ***Abbreviations and acronyms:***
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOEC : No Observed Effect Concentration
EC50: Effective concentration, 50 percent
IC50 : Inhibitory concentration, 50 percent.

· **** Data compared to the previous version altered.***