

Nessler's reagent

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 01/06/2022

Doc No: SDS-951.02P/2



SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : Nessler's reagent
Product group : Trade product

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals

1.2.2. Uses advised against

No additional information available.

1.3. Details of the supplier of the safety data sheet

ISOLAB Laborgeräte GmbH
Am Dillhof 2 - 63863 Eschau / GERMANY
Tel: + 49 93 74 / 978 55-0
Fax: +49 93 74 / 978 55-29
prodsafe@isolab.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité CBF, Haus VIII (Wirtschaftsgebäude), UG	Hindenburgdamm 30 12203 Berlin	+49 30 19240	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 3 (Oral) H301
Acute Tox. 2 (Dermal) H310
Acute Tox. 4 (Inhalation:vapour) H332
Skin Corr. 1A H314
Eye Dam. 1 H318
STOT RE 2 H373
Aquatic Chronic 2 H411

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

May cause damage to organs through prolonged or repeated exposure. Fatal in contact with skin. Toxic if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage. Toxic to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazardous ingredients :

Dipotassium tetraiodomercurate; sodium hydroxide; caustic soda

Hazard statements (CLP) :

H301 - Toxic if swallowed.
H310 - Fatal in contact with skin.
H314 - Causes severe skin burns and eye damage.
H332 - Harmful if inhaled.
H373 - May cause damage to organs through prolonged or repeated exposure.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) :

P262 - Do not get in eyes, on skin, or on clothing.
P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear respiratory protection, protective gloves, protective clothing, eye protection.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.

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P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

P303+P361+P353+P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.. Immediately call a POISON CENTER or doctor.

2.3. Other hazards

No additional information available.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
sodium hydroxide; caustic soda	(CAS-No.) 1310-73-2 (EC-No.) 215-185-5 (EC Index-No.) 011-002-00-6 (REACH-no) 01-2119457892-27	10 - 20	Skin Corr. 1A, H314
Dipotassium tetraiodomercurate (Note 1)	(CAS-No.) 7783-33-7 (EC-No.) 231-990-4	4 - 5	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Specific concentration limits:

Name	Product identifier	Specific concentration limits
sodium hydroxide; caustic soda	(CAS-No.) 1310-73-2 (EC-No.) 215-185-5 (EC Index-No.) 011-002-00-6 (REACH-no) 01-2119457892-27	(0.5 =<C < 2) Eye Irrit. 2, H319 (0.5 =<C < 2) Skin Irrit. 2, H315 (2 =<C < 5) Skin Corr. 1B, H314 (C >= 5) Skin Corr. 1A, H314
Dipotassium tetraiodomercurate	(CAS-No.) 7783-33-7 (EC-No.) 231-990-4	(C >= 0.1) STOT RE 2, H373

Note 1 : The concentration stated or, in the absence of such concentrations, the generic concentrations of this Regulation (Table 3.1) or the generic concentrations of Directive 1999/45/EC (Table 3.2), are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture.

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	: Take off immediately all contaminated clothing. Call a physician immediately. Rinse skin with water/shower.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Call a physician immediately. Do NOT induce vomiting.

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

Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

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

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Do not breathe dust/fume/gas/mist/vapours/spray. Only qualified personnel equipped with suitable protective equipment may intervene.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters. Toxic to aquatic life with long lasting effects.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not breathe vapours. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep only in original container.

Storage area : Avoid : Direct sunlight. Extremely high or low temperatures. Peroxides. Oxidizing agent. Acids.

7.3. Specific end use(s)

No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available.

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Safety glasses. Protective clothing. Gas mask. Gloves.

Hand protection:

Protective gloves

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Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

Consumer exposure controls:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Colour	: Pale yellow
Odour	: No data available on odour.
Odour threshold	: No data available.
pH	: No data available.
Relative evaporation rate (butylacetate=1)	: No data available.
Melting point	: Not applicable
Freezing point	: No data available.
Boiling point	: No data available.
Flash point	: No data available.
Auto-ignition temperature	: No data available.
Decomposition temperature	: No data available.
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available.
Relative vapour density at 20 °C	: No data available.
Relative density	: No data available.
Density	: 1.16 g/cm ³ (20 °C)
Solubility	: No data available.
Log Pow	: No data available.
Viscosity, kinematic	: No data available.
Viscosity, dynamic	: No data available.
Explosive properties	: No data available.
Oxidising properties	: No data available.
Explosive limits	: No data available.

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

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10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Peroxides. alkali metals. Strong acids, strong bases and oxidation agents. Halogens. Explosives. Organic materials.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Oral: Toxic if swallowed.
Acute toxicity (dermal) : Dermal: Fatal in contact with skin.
Acute toxicity (inhalation) : Inhalation:vapour: Harmful if inhaled.

ATE CLP (oral)	99.206 mg/kg bodyweight
ATE CLP (dermal)	100 mg/kg bodyweight
ATE CLP (vapours)	10 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns and eye damage.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

STOT-single exposure : Not classified
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects.
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

sodium hydroxide; caustic soda (1310-73-2)	
LC50 fish 1	> 35 mg/l
EC50 other aquatic organisms 1	> 33 mg/l waterflea

12.2. Persistence and degradability

No additional information available.

12.3. Bioaccumulative potential

sodium hydroxide; caustic soda (1310-73-2)	
Log Pow	-3.88

12.4. Mobility in soil

No additional information available.

12.5. Results of PBT and vPvB assessment

No additional information available.

12.6. Other adverse effects

No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations.

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Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
European List of Waste (LoW) code	: 05 07 01* - wastes containing mercury 06 04 04* - wastes containing mercury 16 01 08* - components containing mercury

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
2922	2922	2922	2922	2922
14.2. UN proper shipping name				
CORROSIVE LIQUID, TOXIC, N.O.S. (CONTAINS sodium hydroxide; caustic soda ; Dipotassium tetraiodomercurate)	CORROSIVE LIQUID, TOXIC, N.O.S. (CONTAINS sodium hydroxide; caustic soda ; Dipotassium tetraiodomercurate)	Corrosive liquid, toxic, n.o.s. (CONTAINS sodium hydroxide; caustic soda ; Dipotassium tetraiodomercurate)	CORROSIVE LIQUID, TOXIC, N.O.S. (CONTAINS sodium hydroxide; caustic soda ; Dipotassium tetraiodomercurate)	CORROSIVE LIQUID, TOXIC, N.O.S. (CONTAINS sodium hydroxide; caustic soda ; Dipotassium tetraiodomercurate)
Transport document description				
UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (CONTAINS sodium hydroxide; caustic soda ; Dipotassium tetraiodomercurate), 8 (6.1), I, (C/D), ENVIRONMENTALLY HAZARDOUS	UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (CONTAINS sodium hydroxide; caustic soda ; Dipotassium tetraiodomercurate), 8 (6.1), I, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 2922 Corrosive liquid, toxic, n.o.s. (CONTAINS sodium hydroxide; caustic soda ; Dipotassium tetraiodomercurate), 8 (6.1), I, ENVIRONMENTALLY HAZARDOUS	UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (CONTAINS sodium hydroxide; caustic soda ; Dipotassium tetraiodomercurate), 8 (6.1), I, ENVIRONMENTALLY HAZARDOUS	UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (CONTAINS sodium hydroxide; caustic soda ; Dipotassium tetraiodomercurate), 8 (6.1), I, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
8 (6.1)	8 (6.1)	8 (6.1)	8 (6.1)	8 (6.1)
14.4. Packing group				
14.5. Environmental hazards				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	: CT1
Special provisions (ADR)	: 274
Limited quantities (ADR)	: 0
Excepted quantities (ADR)	: E0
Packing instructions (ADR)	: P001
Mixed packing provisions (ADR)	: MP8, MP17
Portable tank and bulk container instructions (ADR)	: T14

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Portable tank and bulk container special provisions (ADR) : TP2, TP27
Tank code (ADR) : L10BH
Vehicle for tank carriage : AT
Transport category (ADR) : 1
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28
Special provisions for carriage - Operation (ADR) : S14
Hazard identification number (Kemler No.) : 886
Orange plates :



Tunnel restriction code (ADR) : C/D

- Transport by sea

Special provisions (IMDG) : 274
Packing instructions (IMDG) : P001
Tank instructions (IMDG) : T14
Tank special provisions (IMDG) : TP2, TP13, TP27
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Stowage category (IMDG) : B
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.

- Air transport

PCA Excepted quantities (IATA) : E0
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : 850
PCA max net quantity (IATA) : 0.5L
CAO packing instructions (IATA) : 854
CAO max net quantity (IATA) : 2.5L
Special provisions (IATA) : A3, A803
ERG code (IATA) : 8P

- Inland waterway transport

Classification code (ADN) : CT1
Special provisions (ADN) : 274, 802
Limited quantities (ADN) : 0
Excepted quantities (ADN) : E0
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EP, TOX, A
Ventilation (ADN) : VE02
Number of blue cones/lights (ADN) : 2

- Rail transport

Classification code (RID) : CT1
Special provisions (RID) : 274
Limited quantities (RID) : 0
Excepted quantities (RID) : E0
Packing instructions (RID) : P001
Mixed packing provisions (RID) : MP8, MP17
Portable tank and bulk container instructions (RID) : T14

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Portable tank and bulk container special provisions (RID)	: TP2, TP27
Tank codes for RID tanks (RID)	: L10BH
Special provisions for RID tanks (RID)	: TU38, TE22
Transport category (RID)	: 1
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW28
Hazard identification number (RID)	: 886

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

18. Mercury compounds	Nessler's reagent
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Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
vPvB	Very Persistent and Very Bioaccumulative

Data sources : Classification according to Regulation (EC) No. 1272/2008 [CLP].

Other information : **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

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Full text of H- and EUH-statements:

Acute Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 2 (Dermal)	Acute toxicity (dermal), Category 2
Acute Tox. 2 (Inhalation)	Acute toxicity (inhal.), Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral), Category 2
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
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.

SDS ISOLAB (EU)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product