

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

Electrophoresis stock solution
Article number: 4DL-07020

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

Electrophoresis of DNA

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company 4D Lifetec AG
 Gewerbestrasse 8
 6330 Cham / SWITZERLAND
 Phone +41 32 508 08 07
 Homepage 4dlifetec.com
 E-mail info@4dlifetec.com

Address enquiries to

Technical information info@4dlifetec.com
Safety Data Sheet sdb@chemiebuero.de

1.4 Emergency telephone number

Company +41 41 747 25 52, Mo - Fr 8:00 - 16:00

SECTION 2: Hazards identification
2.1 Classification of the substance or mixture

Skin Corr. 1A: H314 Causes severe skin burns and eye damage.
 Eye Dam. 1: H318 Causes serious eye damage.
 Met. Corr. 1: H290 May be corrosive to metals.

2.2 Label elements
Hazard pictograms

Signal word

DANGER

Contains:

Sodium hydroxide

Hazard statements

H314 Causes severe skin burns and eye damage.
 H290 May be corrosive to metals.

Precautionary statements

P280 Wear protective gloves / protective clothing / eye protection / face protection.
 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 [or shower].
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER / doctor / ...
 P501 Dispose of contents/container in accordance with local/national regulation.

2.3 Other hazards
Environmental hazards

Does not contain any PBT or vPvB substances.

Other hazards

Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients**Product-type:**

The product is a mixture.

Range [%]	Substance
5 - <10	Sodium hydroxide
	CAS: 1310-73-2, EINECS/ELINCS: 215-185-5, EU-INDEX: 011-002-00-6, Reg-No.: 01-2119457892-27-XXXX
	GHS/CLP: Skin Corr. 1A: H314 - Met. Corr. 1: H290 - Eye Dam. 1: H318

Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.
For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures**4.1 Description of first aid measures****General information**

Take off contaminated clothing and wash before reuse.

Inhalation

Ensure supply of fresh air.
In the event of symptoms seek medical treatment.

Skin contact

In case of contact with skin wash off immediately with soap and water.
Immediate medical treatment necessary, as untreated burns can result in slow-healing wounds.

Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Consult a doctor immediately.

Ingestion

Consult a doctor immediately.
Do not induce vomiting.
Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Contact with the skin can have corrosive and irritant effects, leading to redness, irritation, burning sensations and eczema.
Risk of blindness!

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Product itself is non-combustible. Fire extinguishing method of surrounding areas must be considered.

Extinguishing media that must not be used

Full water jet

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.

5.3 Advice for firefighters

Use self-contained breathing apparatus.
Wear full protective suit.
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

High risk of slipping due to leakage/spillage of product.
Use personal protective equipment (protective gloves, safety glasses, protective clothing).

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
 Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, sawdust, universal absorbent, diatomaceous earth).
 Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Use only in well-ventilated areas.
 Avoid formation of aerosols.

Do not eat, drink, smoke or take drugs at work.
 After worktime and before work breaks the affected skin areas must be thoroughly cleaned.
 Use barrier skin cream.
 Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in original container.
 Provide alkali-resistant floor.
 Prevent penetration into the ground.
 Do not store together with acids.
 Do not store together with food and animal food/diet.
 Keep container in a well-ventilated place.
 Keep container tightly closed.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection**8.1 Control parameters****Ingredients with occupational exposure limits to be monitored (GB)**

Substance
Sodium hydroxide
CAS: 1310-73-2, EINECS/ELINCS: 215-185-5, EU-INDEX: 011-002-00-6, Reg-No.: 01-2119457892-27-XXXX
Short-term exposure (15-minute): 2 mg/m ³

DNEL

Substance
Sodium hydroxide, CAS: 1310-73-2
Industrial, inhalative, Long-term - local effects: 1 mg/m ³ .
general population, inhalative, Long-term - local effects: 1 mg/m ³ .

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Tightly fitting goggles. (EN 166:2001)
Hand protection	0,7mm Butyl rubber, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information.
Skin protection	Protective clothing.
Other	Avoid contact with eyes and skin. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
Respiratory protection	Breathing apparatus in the event of aerosol or mist formation. Short term: filter apparatus, filter P2. (DIN EN 143)
Thermal hazards	no
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Form	liquid
Color	colourless
Odor	odourless
Odour threshold	not applicable
pH-value	14
pH-value [1%]	not determined
Boiling point [°C]	not determined
Flash point [°C]	not applicable
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	not determined
Density [g/ml]	~ 1,1 (20 °C / 68,0 °F)
Bulk density [kg/m³]	not applicable
Solubility in water	miscible
Partition coefficient [n-octanol/water]	not determined
Viscosity	not applicable
Relative vapour density determined in air	not applicable
Evaporation speed	not applicable
Melting point [°C]	not determined
Autoignition temperature [°C]	not self-igniting
Decomposition temperature [°C]	not applicable

9.2 Other information

none

SECTION 10: Stability and reactivity**10.1 Reactivity**

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with light metals, with evolution of hydrogen.

Reactions with acids.

Corrosive to metals.

10.4 Conditions to avoid

See SECTION 7

10.5 Incompatible materials

Acids

Various metals.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

Product
ATE-mix, inhalative, > 20 mg/l 4h.
ATE-mix, dermal, > 2000 mg/kg.
ATE-mix, oral, > 2000 mg/kg.

Serious eye damage/irritation

Product is caustic.
 Based on the available information, the classification criteria are fulfilled.
 Toxicological data of complete product are not available.
 Calculation method

Skin corrosion/irritation

Product is caustic.
 Based on the available information, the classification criteria are fulfilled.
 Toxicological data of complete product are not available.
 Calculation method

Respiratory or skin sensitisation

Does not contain a relevant substance that meets the classification criteria.
 Based on the available information, the classification criteria are not fulfilled.
 Toxicological data of complete product are not available.

Specific target organ toxicity — single exposure

Does not contain a relevant substance that meets the classification criteria.
 Based on the available information, the classification criteria are not fulfilled.
 Toxicological data of complete product are not available.

Specific target organ toxicity — repeated exposure

Does not contain a relevant substance that meets the classification criteria.
 Based on the available information, the classification criteria are not fulfilled.
 Toxicological data of complete product are not available.

Mutagenicity

Does not contain a relevant substance that meets the classification criteria.
 Based on the available information, the classification criteria are not fulfilled.
 Toxicological data of complete product are not available.

Reproduction toxicity

Does not contain a relevant substance that meets the classification criteria.
 Based on the available information, the classification criteria are not fulfilled.
 Toxicological data of complete product are not available.

Carcinogenicity

Does not contain a relevant substance that meets the classification criteria.
 Based on the available information, the classification criteria are not fulfilled.
 Toxicological data of complete product are not available.

Aspiration hazard

Does not contain a relevant substance that meets the classification criteria.
 Based on the available information, the classification criteria are not fulfilled.

General remarks

none

SECTION 12: Ecological information**12.1 Toxicity**

Substance
Sodium hydroxide, CAS: 1310-73-2
LC50, (96h), Oncorhynchus mykiss: 45,4 mg/l.
EC50, (48h), Daphnia magna: 40,38 mg/l.

12.2 Persistence and degradability

Behaviour in environment compartments not determined

Behaviour in sewage plant not determined

Biological degradability not determined

12.3 Bioaccumulative potential

Accumulation in organisms is not expected.

12.4 Mobility in soil

Spillages may penetrate the soil causing ground water contamination.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

None known.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Dispose of as hazardous waste.
Coordinate disposal with the authorities if necessary.

Waste no. (recommended)

060204*

Contaminated packaging

Uncontaminated packaging may be reused.
Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended)

150110*

SECTION 14: Transport information**14.1 UN number**


Transport by land according to ADR/RID 1824

Inland navigation (ADN) 1824


Marine transport in accordance with IMDG 1824


Air transport in accordance with IATA 1824

14.2 UN proper shipping name

Transport by land according to ADR/RID	Sodium hydroxide solution
- Classification Code	C5
- Label	
- ADR LQ	1 I
- ADR 1.1.3.6 (8.6)	Transport category (tunnel restriction code) 2 (E)

Inland navigation (ADN)	Sodium hydroxide solution
- Classification Code	C5
- Label	

Marine transport in accordance with IMDG	Sodium hydroxide solution
- EMS	F-A, S-B
- Label	
- IMDG LQ	1 I

Air transport in accordance with IATA	Sodium hydroxide solution
- Label	

14.3 Transport hazard class(es)

Transport by land according to ADR/RID	8
Inland navigation (ADN)	8
Marine transport in accordance with IMDG	8
Air transport in accordance with IATA	8

14.4 Packing group

Transport by land according to ADR/RID	II
Inland navigation (ADN)	II
Marine transport in accordance with IMDG	II
Air transport in accordance with IATA	II

14.5 Environmental hazards

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

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**

EEC-REGULATIONS 1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2008/47/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014

TRANSPORT-REGULATIONS DOT-Classification, ADR (2017); IMDG-Code (2017, 38. Amdt.); IATA-DGR (2017).

NATIONAL REGULATIONS (GB): EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4

- **Observe employment restrictions for people** Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.

- **VOC (2010/75/CE)** 0%

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information**16.1 Hazard statements (SECTION 03)**

H318 Causes serious eye damage.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 ATE = acute toxicity estimate
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging
 DMEL = Derived Minimum Effect Level
 DNEL = Derived No Effect Level
 EC50 = Median effective concentration
 ECB = European Chemicals Bureau
 EEC = European Economic Community
 EINECS = European Inventory of Existing Commercial Chemical Substances
 ELINCS = European List of Notified Chemical Substances
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50 = Inhibition concentration, 50%
 IMDG = International Maritime Code for Dangerous Goods
 IUCLID = International Uniform Chemical Information Database
 LC50 = Lethal concentration, 50%
 LD50 = Median lethal dose
 LC0 = lethal concentration, 0%
 LOAEL = lowest-observed-adverse-effect level
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 NOAEL = No Observed Adverse Effect Level
 NOEC = No Observed Effect Concentration
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 STP = Sewage Treatment Plant
 TLV@/TWA = Threshold limit value – time-weighted average
 TLV@STEL = Threshold limit value – short-time exposure limit
 VOC = Volatile Organic Compounds
 vPvB = very Persistent and very Bioaccumulative

16.3 Other information**Classification procedure**

Skin Corr. 1A: H314 Causes severe skin burns and eye damage. (Calculation method)
 Eye Dam. 1: H318 Causes serious eye damage. (Calculation method)
 Met. Corr. 1: H290 May be corrosive to metals. (Expert judgement)

Modified position

none



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