1. Product and company identification

Product identifier

Trade name: Total protein FS Reagent R2
As part of the kits: 1 2311 XX XX XXX
(The positions X code different packages.)

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

General use: Reagent for in-vitro diagnostic use
For professional use only

Details of the supplier of the safety data sheet

Company name: DiaSys Diagnostic Systems GmbH
Street/POB-No.: Alte Strasse 9
Postal Code, city: 65558 Holzheim
WWW: http://www.diasys.de
E-mail: mail@diasys.de
Telephone: +49 (0) 6432-9146-0
Telefax: +49 (0) 6432-9146-32

Dept. responsible for information:
Corporate headquarters, Telephone: +49 (0) 6432-9146-0, Email: mail@diasys.de

Emergency phone number

Infraserv, Telephone: +49 (0) 69-305-6418

2. Hazards identification

Emergency overview

Appearance: Physical state at 68 °F and 101.3 kPa: liquid
Color: blue, clear
Odor: odorless

Classification: Corrosive to Metals - Category 1; Skin Irritation - Category 2; Eye Irritation - Category 2A; Aquatic toxicity - chronic - Category 3;

Hazard symbols:

Signal word: **Warning**

Hazard statements:
May be corrosive to metals.
Causes skin irritation.
Causes serious eye irritation.
Harmful to aquatic life with long lasting effects.

Precautionary statements:
Keep only in original container.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN: Wash with plenty of water/soap.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Absorb spillage to prevent material damage.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

Hazards not otherwise classified

A corrosive effect cannot be ruled out because of the pH value.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Aqueous solution

Relevant ingredients:

CAS No.	Designation	Content	Classification
CAS 1310-73-2	Sodium hydroxide	0.5 - 2 %	Corrosive to Metals - Category 1. Skin Corrosion - Category 1A.
CAS 7681-11-0	Potassium iodide	< 2 %	Acute Toxicity - oral - Category 4. Skin Irritation - Category 2. Eye Irritation - Category 2A.
CAS 7758-99-8	Copper sulphate-5-hydrate	< 1 %	Acute Toxicity - oral - Category 4. Eye Damage - Category 1. Aquatic toxicity - acute - Category 1. Aquatic toxicity - chronic - Category 1.

4. First aid measures

General information: First aider: Pay attention to self-protection!
If medical advice is needed, have product container or label at hand.

In case of inhalation: Move victim to fresh air, put at rest and loosen restrictive clothing. Seek medical aid in case of troubles.

Following skin contact: Take off immediately all contaminated clothing and wash it before reuse.
After contact with skin, wash immediately with plenty of water.
Cover with sterile dressing material to protect against infection. Seek medical attention.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently seek the immediate attention of an ophthalmologist.

After swallowing: Never give anything by mouth to an unconscious person. Rinse mouth immediately and drink plenty of water. Do not induce vomiting. Risk of perforation! Do not try to neutralize. Seek medical attention.

Most important symptoms/effects, acute and delayed

Causes skin irritation. Causes serious eye irritation.
A corrosive effect cannot be ruled out because of the pH value. May cause respiratory irritation. In case of ingestion: Irritant up to corrosive.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:
not combustible

Auto-ignition temperature: No data available

Suitable extinguishing media:
Product is non-combustible. Extinguishing materials should therefore be selected according to surroundings.

Specific hazards arising from the chemical

Fires in the immediate vicinity may cause the development of dangerous vapors.
In the event of a fire, the following may be produced when the water evaporates: Sodium compounds, copper oxide, hydrogen iodide, sulphur oxides, carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:
In case of surrounding fires: Wear a self-contained breathing apparatus and chemical protective clothing.

6. Accidental release measures

Personal precautions: Avoid contact with skin and eyes. Take off immediately all contaminated clothing and wash it before reuse.
Wear appropriate protective equipment. Provide adequate ventilation. Do not breathe vapors.

Environmental precautions:
Do not allow to enter into ground-water, surface water or drains.
If necessary notify appropriate authorities.

Methods for clean-up: Absorb spillage to prevent material damage. Dilute with plenty of water.
Soak up with absorbent materials such as sand, siliceus earth, acid- or universal binder.
Store in special closed containers and dispose of according to ordinance. Final cleaning.
Never return spills in original containers for re-use.

7. Handling and storage

Handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Do not breathe vapors. Avoid contact with skin and eyes. Take off immediately all contaminated clothing and wash it before reuse. Wear appropriate protective equipment. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
Have eye wash bottle or eye rinse ready at work place.

Storage

Requirements for storerooms and containers:
Keep containers tightly closed and at a temperature between 35.6 °F and 77 °F.
Protect from light. Keep away from heat. Store containers in upright position.
Unsuitable materials: Metals, light metals.

Hints on joint storage: Do not store together with ammonium compounds or acids.
Keep away from food, drink and animal feedingstuffs.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
1310-73-2	Sodium hydroxide	USA: ACGIH: Ceiling	2 mg/m³
		USA: NIOSH: Ceiling	2 mg/m³
		USA: OSHA: TWA	2 mg/m³
7758-99-8	Copper sulphate-5-hydrate	USA: ACGIH: TWA	0.2 mg/m³ (Smoke)
		USA: ACGIH: TWA	1 mg/m³ (Dusts and mist calculated as Cu)
		USA: NIOSH: TWA	1 mg/m³
		USA: OSHA: TWA	0.1 mg/m³ (Smoke; calculated as Cu)
		USA: OSHA: TWA	1 mg/m³ (Dusts and mist calculated as Cu)

Engineering controls

When aerosols or vapors form: Withdraw by suction.
See also information in chapter 7, section storage.

Personal protection equipment (PPE)

Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Skin protection: Wear suitable protective clothing.

Protective gloves according to OSHA Standard - 29 CFR: 1910.138.
Glove material: Nitrile rubber - Layer thickness: 0.11 mm.
Breakthrough time: > 480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded. The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product.

General hygiene considerations:

Do not breathe vapors. Do not get in eyes, on skin, or on clothing. Take off immediately all contaminated clothing and wash it before reuse. Do not eat, drink or smoke when using this product. Have eye wash bottle or eye rinse ready at work place. Wash hands before breaks and after work.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance: Physical state at 68 °F and 101.3 kPa: liquid
Color: blue, clear

Odor: odorless

Odor threshold: No data available

pH value:	at 77 °F: 13.27
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	not combustible
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density:	at 68 °F: 1.0454 g/mL
Water solubility:	at 68 °F: completely miscible
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Thermal decomposition:	No data available
Additional information:	No data available

10. Stability and reactivity

Reactivity: May be corrosive to metals.
Reacts violently with metals and light metals. Formation of hydrogen!

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions
Reacts with ammonium compounds: Formation of ammonia.

Conditions to avoid: Keep away from heat.

Incompatible materials: Acids

Hazardous decomposition products:
No hazardous decomposition products when regulations for storage and handling are observed.

Thermal decomposition: No data available

11. Toxicological information

Toxicological tests

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.
Acute toxicity (oral): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Skin Irritation - Category 2 = Causes skin irritation.

Serious eye damage/irritation: Eye Irritation - Category 2A = Causes serious eye irritation.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data.

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Lack of data.

Reproductive toxicity: Lack of data.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

Symptoms

A corrosive effect cannot be ruled out because of the pH value. May cause respiratory irritation. In case of ingestion: Irritant up to corrosive.

12. Ecological information

Ecotoxicity

Aquatic toxicity: Harmful to aquatic life with long lasting effects.
Harmful effects on water organisms by modification of pH-value.

Mobility in soil

No data available

Persistence and degradability

Further details: Methods for the determination of biodegradability are not applicable to inorganic substances.

Additional ecological information

General information: Do not allow to enter into ground-water, surface water or drains.

13. Disposal considerations

Product

Recommendation: Special waste. Dispose of waste according to applicable legislation.

Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

14. Transport information

USA: Department of Transportation (DOT)

Identification number:	UN1824
Proper shipping name:	UN 1824, SODIUM HYDROXIDE SOLUTION
Hazard class or Division:	8
Packing Group:	III
Labels:	8
Special provisions:	IB3, N34, T4, TP1
Packaging – Exceptions:	154
Packaging – Non-bulk:	203
Packaging – Bulk:	241
Quantity limitations – Passenger aircraft / rail:	5 L
Quantity limitations – Cargo only:	60 L
Vessel stowage – Location:	A
Vessel stowage – Other:	52.

Sea transport (IMDG)

UN number:	UN 1824
Proper shipping name:	UN 1824, SODIUM HYDROXIDE SOLUTION
Class or division, Subsidary risk:	Class 8, Subrisk -
Packing Group:	III
EmS:	F-A, S-B
Special provisions:	223
Limited quantities:	5 L
Excepted quantities:	E1
Contaminated packaging - Instructions:	P001, LP01
Contaminated packaging - Provisions:	-
IBC - Instructions:	IBC03
IBC - Provisions:	-
Tank instructions - IMO:	-
Tank instructions - UN:	T4
Tank instructions - Provisions:	TP1
Stowage and handling:	Category A.
Segregation:	SG35
Properties and observations:	Colourless liquid. Corrosive to aluminium, zinc and tin. Reacts with ammonium salts, evolving ammonia gas. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.
Marine pollutant:	no
Segregation group:	18

Air transport (IATA)

UN/ID number:	UN 1824
Proper shipping name:	UN 1824, SODIUM HYDROXIDE SOLUTION
Class or division, Subsidary risk:	Class 8
Packing Group:	III
Hazard label:	Corrosive
Excepted Quantity Code:	E1
Passenger and Cargo Aircraft: Ltd.Qty.:	Pack.Instr. Y841 - Max. Net Qty/Pkg. 1 L
Passenger and Cargo Aircraft:	Pack.Instr. 852 - Max. Net Qty/Pkg. 5 L
Cargo Aircraft only:	Pack.Instr. 856 - Max. Net Qty/Pkg. 60 L
Special provisions:	A3 A803
Emergency Response Guide-Code (ERG):	8L

15. Regulatory information

National regulations - U.S. Federal Regulations

Sodium hydroxide:
TSCA Inventory: listed
TSCA HPVC: not listed
Clean Water Act:
Hazardous Substances: RQ 1000 lbs.
Other Environmental Laws:
CERCLA: RQ 1000 lbs.
NIOSH Recommendations:
Occupational Health Guideline: 0565

Potassium iodide:
TSCA Inventory: listed
TSCA HPVC: not listed

Copper sulphate-5-hydrate:
TSCA: not listed
Copper sulphate anhydrous / CAS 7758-98-7:
listed

National regulations - U.S. State Regulations

Sodium hydroxide:
Delaware Air Quality Management List:
DRQ: 1000 - RQ State: Federal Regulations Apply
Idaho Air Pollutant List:
Title 585: AAC: 0,1 - EL: 0,133 - OEL: 2 - Title 586: AAAC: - EL: - OEF: -
Massachusetts Haz. Substance codes: 2,4,5 F8 F9
Minnesota Haz. Substance:
Codes: AO - Ratings: - Status: Title III.
New York List of Hazardous Substances:
RQ-Air: 1000 - RQ-Land: 100 - Note: No Note Associated with this chemical.
Pennsylvania Haz. Substance code: E
Washington Air Contaminant: Ceiling: 2 mg

National regulations - Great Britain

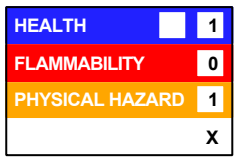
Hazchem-Code: 2R

16. Other information

Text for labeling: Contains 0.5 - 2 % Sodium hydroxide, < 2 % Potassium iodide, < 1 % Copper sulphate-5-hydrate. Safety data sheet available on request.

Hazard rating systems:

NFPA Hazard Rating:
Health: 1 (Slight)
Fire: 0 (Minimal)
Reactivity: 1 (Slight)
HMIS Version III Rating:
Health: 1 (Slight)
Flammability: 0 (Minimal)
Physical Hazard: 1 (Slight)
Personal Protection: X = Consult your supervisor



Reason of change: ADR/RID 2019
Date of first version: 2/7/2008

Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.