

KIT COMPONENTS

Product code	Product name
425312F	N-Histofine [®] DAB-2V
425314F	

SDS-ID	Component name
F-1000	DAB Reagent A
F-1003	DAB Reagent B

Safety Data Sheets are provided on the next page.

Safety Data Sheet

Material Name: DAB Reagent A

SDS ID: F-1000
In compliance with Regulation
(EC) 1907/2006 (REACH) as
amended

Section 1 - IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product Identifier:

Product Identifier: DAB Reagent A

Substance Registration Number(s)

This product and its components are not subject to REACH.

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against Identified Uses

immunohistochemical use

Reagent type: Bottle

425312F: **N**-Histofine DAB-2V ; DAB reagent A; 1.2 ml x 2

425314F: **N**-Histofine DAB-2V ; DAB reagent A; 1.2 ml x 6

Uses Advised Against

Restricted to professional users. Cannot be distributed to the general public.

1.3 Details of the supplier of the safety data sheet

Nichirei Biosciences Inc.
6-19-20, Tsukiji, Chuo-Ku
Tokyo, Japan

Telephone number: +81-3-3248-2207
Email: n1060x005@nichirei.co.jp

1.4 Emergency Telephone Number

+81-3-3248-2207 (9:00-17:00 Japan time)

Section 2 - HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquid, Category 2

Acute Toxicity (Dermal), Category 3 (2.5% unknown)

Acute Toxicity (Oral), Category 4 (2.5% unknown)

Acute Toxicity (Inhalation), Category 4 (2.5% unknown)

Serious Eye Damage/Eye Irritation, Category 2A

Germ cell mutagenicity, Category 2

Carcinogenicity, Category 1A

2.2 Label Elements

Labelling according to Regulation (EC) No 1272/2008:

Symbol(s)



Signal Word

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DANGER

Hazard Statement(s)

- H225 Highly flammable liquid and vapour.
- H311 Toxic in contact with skin.
- H302 Harmful if swallowed.
- H332 Harmful if inhaled.
- H319 Causes serious eye irritation.
- H341 Suspected of causing genetic defects
- H350 May cause cancer.

Precautionary Statement(s)

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P201 Obtain special instructions before use. P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P308+P313 IF exposed or concerned: Get medical advice/attention. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Storage

P403+P235 Store in a well-ventilated place. Keep cool.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other Hazards

None known.

* * *Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS* * *

CAS EC No Registration No	Component Synonyms	1272/2008 (CLP)	Percent
75-05-8 200-835-2 --	Acetonitrile	Flam. Liq. 2 H225 Acute Tox. 4 (Oral) H302 Acute Tox. 4 (Dermal) H312 Acute Inh. Tox. 4 H332 Eye Irrit. 2 H319	50
7732-18-5 231-791-2 --	Water	--	47.5
7411-49-6 231-018-9 --	3,3'-Diaminobenzidine tetrahydrochloride	Muta. 2 H341 Carc. 1A H350	2.5

CAS 7411-49-6: Self classification required

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Section 4 - FIRST AID MEASURES

4.1 Description of First Aid Measures

Inhalation

Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.

Skin

Wash with plenty of soap and water. Take off contaminated clothing. Get medical attention if irritation develops. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.

Ingestion

If swallowed, get medical attention.

4.2 Most Important Symptoms and Effects, both Acute and Delayed

Acute

eye irritation

Delayed

cancer, mutagenic effects

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically and supportively. For inhalation, consider oxygen.

Section 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing Media

carbon dioxide, regular dry chemical, water spray, alcohol resistant foam

Unsuitable Extinguishing Media

Do not scatter spilled material with high-pressure water streams.

5.2 Special Hazards Arising from the Substance or Mixture

Highly flammable liquid and vapor. Vapors or gases may ignite at distant ignition sources and flash back.

Thermal Decomposition Products

Combustion: oxides of carbon, oxides of nitrogen, cyanides, hydrogen chloride gas

5.3 Advice for Firefighters

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Do not scatter spilled material with high-pressure water streams. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Avoid inhalation of material or combustion by-products.

Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

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6.2 Environmental Precautions

Avoid release to the environment. Prevent entry into sewers, drains, ditches, underground or confined spaces and waterways.

6.3 Methods and Material for Containment and Cleaning up

Do not touch or walk through spilled material. Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Use non-sparking tools and equipment. **Large spills:** Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

6.4 Reference to Other Sections

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. See Section 13 for Disposal Considerations.

* * *Section 7 - HANDLING AND STORAGE* * *

7.1 Precautions for Safe Handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools and equipment. Take precautionary measures against static discharge. Avoid breathing vapor or mist. Use only outdoors or in a well-ventilated area. Do not eat, drink, or smoke when using this product. Avoid contact with eyes, skin and clothing. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Avoid release to the environment.

7.2 Conditions for Safe Storage, Including any Incompatibilities

Store and handle in accordance with all current regulations and standards. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Grounding and bonding required. Store locked up. Keep separated from incompatible substances.

7.3 Specific End Use(s)

immunohistochemical use

* * *Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION* * *

8.1 Control Parameters

Component Exposure Limits

Acetonitrile (75-05-8)

EU (IOELV):	40 ppm TWA; 70 mg/m ³ TWA Possibility of significant uptake through the skin
Austria:	40 ppm TWA [TMW]; 70 mg/m ³ TWA [TMW] 160 ppm STEL [KZW] (4 X 15 min); 280 mg/m ³ STEL [KZW] (4 X 15 min) skin notation
Belgium:	20 ppm TWA; 34 mg/m ³ TWA Skin
Bulgaria:	40 ppm TWA; 70 mg/m ³ TWA Skin notation
Croatia:	40 ppm TWA [GVI]; 68 mg/m ³ TWA [GVI] 60 ppm STEL [KGV]; 102 mg/m ³ STEL [KGV] Skin Notation
Denmark:	40 ppm TWA; 70 mg/m ³ TWA

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	Potential for cutaneous absorption
Estonia:	40 ppm TWA; 70 mg/m ³ TWA 60 ppm STEL; 100 mg/m ³ STEL Skin notation
Finland:	20 ppm TWA; 34 mg/m ³ TWA 40 ppm STEL; 68 mg/m ³ STEL Potential for cutaneous absorption
France:	40 ppm TWA [VME] (restrictive limit); 70 mg/m ³ TWA [VME] (restrictive limit) Risk of cutaneous absorption
Germany (TRGS):	20 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2); 34 mg/m ³ TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 2) skin notation
Gibraltar:	Skin notation 40 ppm TWA; 70 mg/m ³ TWA
Germany (DFG):	20 ppm TWA MAK; 34 mg/m ³ TWA MAK 40 ppm Peak; 68 mg/m ³ Peak skin notation
Greece:	40 ppm TWA; 70 mg/m ³ TWA 60 ppm STEL; 105 mg/m ³ STEL
Hungary:	70 mg/m ³ TWA [AK] potential for cutaneous absorption
Ireland:	40 ppm TWA; 70 mg/m ³ TWA Potential for cutaneous absorption
Italy:	20 ppm TWA Media Ponderata nel Tempo; 35 mg/m ³ TWA Media Ponderata nel Tempo skin - potential for cutaneous absorption
Latvia:	40 ppm TWA; 70 mg/m ³ TWA skin - potential for cutaneous exposure
Lithuania:	40 ppm TWA [IPRD]; 70 mg/m ³ TWA [IPRD] Skin notation
Luxembourg:	40 ppm TWA; 70 mg/m ³ TWA Possibility of significant uptake through the skin
Malta:	40 ppm TWA; 70 mg/m ³ TWA possibility of significant uptake through the skin
Netherlands:	34 mg/m ³ TWA
Poland:	70 mg/m ³ TWA [NDS] 140 mg/m ³ STEL [NDSch]
Portugal:	40 ppm TWA [VLE-MP] (indicative limit value); 70 mg/m ³ TWA [VLE-MP] (indicative limit value) skin - potential for cutaneous exposure (indicative limit value)
Romania:	40 ppm TWA; 70 mg/m ³ TWA Skin notation
Slovak Republic:	40 ppm TWA; 70 mg/m ³ TWA Potential for cutaneous absorption
Slovenia:	40 ppm TWA; 70 mg/m ³ TWA Potential for cutaneous absorption
Spain:	40 ppm TWA [VLA-ED] (indicative limit value); 68 mg/m ³ TWA [VLA-ED] (indicative

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limit value)
skin - potential for cutaneous exposure
Sweden: 30 ppm LLV; 50 mg/m³ LLV
60 ppm STV; 100 mg/m³ STV
United Kingdom: 40 ppm TWA; 68 mg/m³ TWA
60 ppm STEL; 102 mg/m³ STEL

Component Biological Limit Values

There are no biological limit values for the component(s) of this product.

Derived No Effect Levels (DNELs)

No DNELs available.

Predicted No Effect Concentrations (PNECs)

No PNECs available.

8.2 Exposure Controls

Appropriate Engineering Controls

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal Protective Equipment

Eye / Face Protection

Wear splash resistant safety goggles with a faceshield. (EN 166) Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

Wear appropriate chemical resistant clothing. (EN 340)

Glove Recommendations

Wear appropriate chemical resistant gloves. (EN 374)

Respiratory Protection

If airborne contaminant levels exceed recommended exposure limits, use CEN/EN Standard applicable respiratory protection appropriate for employee exposure levels.

Consult with a health and safety professional for specific respirators appropriate for your use.

Environmental Exposure Controls

Avoid release to the environment.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Physical State:	Liquid	Appearance:	colorless, transparent liquid
Color:	colorless, transparent	Physical Form:	liquid
Odor:	odorless	Odor Threshold:	Not available
pH:	Not available	Melting Point:	Not available
Boiling Point:	82 °C (Acetonitrile)	Flash Point:	6 °C (COC) (Acetonitrile)
Decomposition Temperature:	Not available	Evaporation Rate:	Not available
LEL:	Not available	UEL:	Not available
Vapor Pressure:	Not available	Vapor Density (air = 1):	Not available
Density:	Not available	Specific Gravity (water = 1):	Not available
Water Solubility:	Not available	Log KOW:	Not available
Coeff. Water/Oil Dist:	Not available	Auto Ignition Temperature:	Not available

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Viscosity:	Not available	Volatility:	Not available
Oxidizing Properties:	Not available	Explosive Properties:	Not available
Flammability (solid, gas):	Not applicable		

9.2 Other Information

No additional information is available.

Section 10 - STABILITY AND REACTIVITY

10.1 Reactivity

No reactivity hazard is expected.

10.2 Chemical Stability

Stable under normal conditions of use.

10.3 Possibility of Hazardous Reactions

Will not polymerize.

10.4 Conditions to Avoid

Avoid flames, sparks, and other sources of ignition. Containers may rupture or explode if exposed to heat. Avoid contact with incompatible materials.

10.5 Incompatible Materials

acids, metals, bases, oxidizing materials, combustible materials, reducing agents

10.6 Hazardous Decomposition Products

Thermal Decomposition Products

Combustion: oxides of carbon, oxides of nitrogen, cyanides, hydrogen chloride gas

Section 11 - TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The component(s) of this material have been reviewed in various sources and the following selected endpoints are published:

Acetonitrile (75-05-8)

Dermal LD50 Rabbit 390 mg/kg; Inhalation LC50 Rat 26.8 mg/L 4 h (mist); Oral LD50 Rat 160 mg/kg

Water (7732-18-5)

Oral LD50 Rat >90 mL/kg

Irritation / Corrosivity

eye irritation

Respiratory Sensitisation

No information available for the product.

Skin Sensitisation

No information available for the product.

Germ Cell Mutagenicity

Available data characterizes component(s) of this product as a germ cell mutagenic hazard.

Carcinogenicity

Component Carcinogenicity

3,3'-Diaminobenzidine tetrahydrochloride (7411-49-6)

DFG: Category 3B (could be carcinogenic for man)

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Reproductive Toxicity

No information available for the product.

Specific Target Organ Toxicity - Single Exposure

No target organs identified.

Specific Target Organ Toxicity - Repeated Exposure

No target organs identified.

Aspiration Hazard

Not available

Additional Data

No additional information is available.

Section 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

Component Analysis - Aquatic Toxicity

Acetonitrile (75-05-8)

Fish: 96 Hr LC50 Pimephales promelas: 1600 - 1690 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 1000 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 1850 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 1650 mg/L [static]

12.2 Persistence and Degradability

No information available for the product.

12.3 Bioaccumulative Potential

No information available for the product.

12.4 Mobility in Soil

No information available for the product.

12.5 Results of PBT and vPvB Assessment

No information available.

EU - Interim Strategy for Management of PBT and vPvB Substances (PBT Assessments)

No components of this material are listed.

12.6 Other Adverse Effects

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

13.1.1 Product/Packaging Disposal

For disposal within the EC, use the appropriate code according to European Waste Catalogue (EWC).

13.1.2 Waste Treatment Relevant Information

Dispose in accordance with all applicable regulations.

13.1.3 Sewage Disposal Relevant Information

Prevent entry into sewers, drains, ditches, underground or confined spaces and waterways.

13.1.4 Other Disposal Recommendations

Dispose in accordance with all applicable regulations.






Section 14 - TRANSPORT INFORMATION

14.1	UN Number	ADR	RID	ICAO	ADN	IMDG
		1648	1648	1648	1648	1648

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amended

14.2	UN Proper Shipping Name	Acetonitrile Mixture	Acetonitrile Mixture	Acetonitrile Mixture	Acetonitrile Mixture	Acetonitrile Mixture
14.3	Transport Hazard Class(es)	Hazard Class: 3	Hazard Class: 3	Hazard Class: 3	Hazard Class: 3	Hazard Class: 3
						
14.4	Packing Group	Packing Group: II	Packing Group: II	Packing Group: II	Packing Group: II	Packing Group: II
14.5	Environmental Hazards	--	--	--	--	--
14.6	Special Precautions For User	--	--	--	--	--
14.7	Transport in Bulk According to Annex II or MARPOL 73/78 and the IBC Code	--	--	--	--	--

Transport/Additional information:

ADR

Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml
Transport category	2
Tunnel restriction code	D/E

IMDG

Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 500 ml

International Bulk Chemical Code

This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Acetonitrile (75-05-8)

IBC Code: Category Z; Category Y (low purity grade)

*****Section 15 - REGULATORY INFORMATION*****

15.1 Safety, Health and Environmental Regulations / Legislation Specific for the Substance or Mixture

EU - REACH (1907/2006) - Annex XIV List of Substances Subject to Authorisation

No components of this material are listed.

EU - REACH (1907/2006) - Article 59(1) Candidate List of Substances for Eventual Inclusion in Annex XIV

No components of this material are listed.

EU - REACH (1907/2006) - Annex XVII Restrictions of Certain Dangerous Substances, Mixtures and Articles

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No components of this material are listed.

Germany Regulations

Germany Water Classification

Acetonitrile (75-05-8)

ID Number 8, hazard class 2 - hazard to waters

Germany - Ordinance on Prohibition of Certain Chemicals

acetonitrile

3,3'-DIAMINO BENZIDINE TETRAHYDROCHLORIDE

Denmark Regulations

Environmental Protection Agency List of Undesirable Substances

No components of this material are listed.

Threshold of Exposure Concentrations of VOCs

No components of this material are listed.

France Water Pollution

No components of this material are listed.

Inventory

Substance Analysis - Inventory

Component	CAS	EEC
Acetonitrile	75-05-8	EIN
Water	7732-18-5	EIN
3,3'-Diaminobenzidine tetrahydrochloride	7411-49-6	EIN

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for the substance/mixture.

Section 16 - OTHER INFORMATION

16.1 Indication of changes

New SDS: 18 April 2016

16.2 Key / Legend to abbreviations and acronyms used in the safety data sheet

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; CAS - Chemical Abstracts Service; CLP - Classification, Labelling and Packaging; EEC - European Economic Community; EIN (EINECS) - European Inventory of Existing Commercial Chemical Substances; ELN (ELINCS) - European List of Notified Chemical Substances; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IBC Code - International Bulk Chemical Code; Kow - Octanol/water partition coefficient; LC50 - Lethal Concentration, 50%; LD50 - Lethal Dose, 50%; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NTP = National Toxicology Program; REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - European Rail Transport; STEL - Short-term Exposure Limit; TWA - Time Weighted Average; UEL - Upper Explosive Limit

16.3 Key literature references and sources for data

Available upon request

16.4 Methods used for classification of mixture according to Regulation (EC) No 1272/2008

Available upon request

16.5 Full text of H- phrases in Section 3

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H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

16.6 Training Advice

Read the Safety Data Sheet before handling product.

16.7 Other Information

The information set forth in this Safety Data Sheet does not purport to be all-inclusive and should be used only as a guide. While the information and recommendations set forth herein are believed to be accurate, the company makes no warranty regarding such information and recommendations and disclaims all liability from reliance thereon.

End of Sheet F-1000

Safety Data Sheet

Material Name: DAB Reagent B

SDS ID: F-1003
In compliance with Regulation
(EC) 1907/2006 (REACH) as
amended

Section 1 - IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product Identifier:

Product Identifier: DAB Reagent B

Substance Registration Number(s)

This product and its components are not subject to REACH.

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Identified Uses

immunohistochemical use

Reagent type: Bottle

425312F: **N**-Histofine DAB-2V; DAB reagent B; 30.0 ml x 2

425314F: **N**-Histofine DAB-2V; DAB reagent B; 60.0 ml x 6

Uses Advised Against

Use in accordance with supplier's recommendations.

1.3 Details of the supplier of the safety data sheet

Nichirei Biosciences Inc.
6-19-20, Tsukiji, Chuo-Ku
Tokyo, Japan

Telephone number: +81-3-3248-2207
Email: n1060x005@nichirei.co.jp

1.4 Emergency Telephone Number

+81-3-3248-2207 (9:00-17:00 Japan time)

Section 2 - HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Classification according to Regulation (EC) No 1272/2008

No classification is assigned, based on classification criteria. Review the entire data sheet for any additional information which did not result in a GHS classification.

2.2 Label Elements

Labelling according to Regulation (EC) No 1272/2008:

Symbol(s)

None needed according to classification criteria.

Signal Word

None needed according to classification criteria.

Hazard Statement(s)

None needed according to classification criteria.

Precautionary Statement(s)

Prevention

None needed according to classification criteria.

Response

None needed according to classification criteria.

Storage

None needed according to classification criteria.

Disposal

Dispose in accordance with all applicable regulations.

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2.3 Other Hazards

No additional information is available.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS EC No Registration No	Component Synonyms	1272/2008 (CLP)	Percent
Not Available -- --	Aqueous salt solution	--	99.4
7722-84-1 231-765-0 --	Hydrogen peroxide	Ox. Liq. 1 H271 Acute Tox. 4 (Oral) H302 Acute Inh. Tox. 4 H332 Skin Corr. 1A H314 Note(s): B	0.6

Section 4 - FIRST AID MEASURES

4.1 Description of First Aid Measures

Inhalation

If adverse effects occur, remove to uncontaminated area. If breathing is difficult, oxygen should be administered by qualified personnel. Get medical attention.

Skin

Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

Eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.

Ingestion

If swallowed, get medical attention.

4.2 Most Important Symptoms and Effects, both Acute and Delayed

Acute

No information on significant adverse effects.

Delayed

No information on significant adverse effects.

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically and supportively.

Section 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Use extinguishing agents appropriate for surrounding fire.

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

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5.2 Special Hazards Arising from the Substance or Mixture

Negligible fire hazard.

Thermal Decomposition Products

Combustion: miscellaneous decomposition products

5.3 Advice for Firefighters

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out.

Protective Equipment and Precautions for Firefighters

Wear personal protective clothing and equipment such as self-contained breathing apparatus (SCBA) for protection against possible exposure.

* * *Section 6 - ACCIDENTAL RELEASE MEASURES* * *

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

6.2 Environmental Precautions

Avoid release to the environment.

6.3 Methods and Material for Containment and Cleaning up

Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Keep unnecessary people away, isolate hazard area and deny entry.

6.4 Reference to Other Sections

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. See Section 13 for Disposal Considerations.

* * *Section 7 - HANDLING AND STORAGE* * *

7.1 Precautions for Safe Handling

Avoid breathing vapor or mist. Avoid contact with skin and eyes. Wash thoroughly after handling.

7.2 Conditions for Safe Storage, Including any Incompatibilities

Store and handle in accordance with all current regulations and standards.

7.3 Specific End Use(s)

immunohistochemical use

* * *Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION* * *

8.1 Control Parameters

Component Exposure Limits

Hydrogen peroxide (7722-84-1)

Austria: 1 ppm TWA [TMW]; 1.4 mg/m³ TWA [TMW]
2 ppm STEL [KZW]; 2.8 mg/m³ STEL [KZW]

Belgium: 1 ppm TWA; 1.4 mg/m³ TWA

Bulgaria: 1.5 mg/m³ TWA

Croatia: 1 ppm TWA [GVI]; 1.4 mg/m³ TWA [GVI]
2 ppm STEL [KGVII]; 2.8 mg/m³ STEL [KGVII]

Denmark: 1 ppm TWA; 1.4 mg/m³ TWA

Estonia: 1 ppm TWA; 1.4 mg/m³ TWA
2 ppm Ceiling; 3 mg/m³ Ceiling

Finland: 1 ppm TWA (also solutions); 1.4 mg/m³ TWA (also solutions)
3 ppm STEL; 4.2 mg/m³ STEL

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France:	1 ppm TWA [VME]; 1.5 mg/m ³ TWA [VME]
Germany (DFG):	0.5 ppm TWA MAK; 0.71 mg/m ³ TWA MAK 0.5 ppm Peak; 0.71 mg/m ³ Peak
Greece:	1 ppm TWA; 1.4 mg/m ³ TWA 3 mg/m ³ STEL
Ireland:	1 ppm TWA; 1.5 mg/m ³ TWA 2 ppm STEL; 3 mg/m ³ STEL
Lithuania:	1 ppm TWA [IPRD]; 1.4 mg/m ³ TWA [IPRD] 2 ppm Ceiling [NRD]; 3 mg/m ³ Ceiling [NRD]
Poland:	0.4 mg/m ³ TWA [NDS] 0.8 mg/m ³ STEL [NDSch]
Portugal:	1 ppm TWA [VLE-MP]
Slovak Republic:	1 ppm TWA; 1.4 mg/m ³ TWA 2.8 mg/m ³ Ceiling
Slovenia:	1 ppm TWA; 1.4 mg/m ³ TWA 1 ppm STEL; 1.4 mg/m ³ STEL
Spain:	1 ppm TWA [VLA-ED]; 1.4 mg/m ³ TWA [VLA-ED]
Sweden:	1 ppm LLV; 1.4 mg/m ³ LLV 2 ppm CLV; 3 mg/m ³ CLV
United Kingdom:	1 ppm TWA; 1.4 mg/m ³ TWA 2 ppm STEL; 2.8 mg/m ³ STEL

Component Biological Limit Values

There are no biological limit values for the component(s) of this product.

Derived No Effect Levels (DNELs)

No DNELs available.

Predicted No Effect Concentrations (PNECs)

No PNECs available.

8.2 Exposure Controls

Appropriate Engineering Controls

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

Personal Protective Equipment

Eye / Face Protection

Wear splash resistant safety glasses. (EN 166) Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

Wear appropriate chemical resistant clothing. (EN 340)

Glove Recommendations

Wear appropriate chemical resistant gloves. (EN 374)

Respiratory Protection

If airborne contaminant levels exceed recommended exposure limits, use CEN/EN Standard applicable respiratory protection appropriate for employee exposure levels.

Consult with a health and safety professional for specific respirators appropriate for your use.

Environmental Exposure Controls

Avoid release to the environment.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties

Physical State:	Liquid	Appearance:	colorless liquid
Color:	colorless	Physical Form:	liquid
Odor:	odorless	Odor Threshold:	Not available
pH:	Not available	Melting Point:	Not available
Boiling Point:	Not available	Flash Point:	Not available
Decomposition Temperature:	Not available	Evaporation Rate:	Not available
LEL:	Not available	UEL:	Not available
Vapor Pressure:	Not available	Vapor Density (air = 1):	Not available
Density:	Not available	Specific Gravity (water = 1):	Not available
Water Solubility:	Not available	Log KOW:	Not available
Coeff. Water/Oil Dist:	Not available	Auto Ignition Temperature:	Not available
Viscosity:	Not available	Oxidizing Properties:	Not available
Explosive Properties:	Not available	Flammability (solid, gas):	Not applicable

9.2 Other Information

No additional information is available.

Section 10 - STABILITY AND REACTIVITY

10.1 Reactivity

No reactivity hazard is expected.

10.2 Chemical Stability

Stable at standard temperatures and pressure.

10.3 Possibility of Hazardous Reactions

Will not polymerize.

10.4 Conditions to Avoid

None known.

10.5 Incompatible Materials

None known.

10.6 Hazardous Decomposition Products

Thermal Decomposition Products

Combustion: miscellaneous decomposition products

Section 11 - TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The component(s) of this material have been reviewed in various sources and the following selected endpoints are published:

Hydrogen peroxide (7722-84-1)

Oral LD50 Rat 1518 mg/kg; Dermal LD50 Rabbit 2000 mg/kg; Dermal LD50 Rat 4060 mg/kg; Inhalation LC50 Rat 2 g/m³ 4 h

Irritation / Corrosivity

May cause irritation.

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Respiratory Sensitisation

No information available for the product.

Skin Sensitisation

No information available for the product.

Germ Cell Mutagenicity

No information available for the product.

Carcinogenicity

Component Carcinogenicity

Hydrogen peroxide (7722-84-1)

IARC: Monograph 71 [1999]; Supplement 7 [1987]; Monograph 36 [1985] (Group 3 (not classifiable))

DFG: Category 4 (no significant contribution to human cancer)

Reproductive Toxicity

No information available for the product.

Specific Target Organ Toxicity - Single Exposure

No target organs identified.

Specific Target Organ Toxicity - Repeated Exposure

No target organs identified.

Aspiration Hazard

No information available for the product.

Section 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

Component Analysis - Aquatic Toxicity

Hydrogen peroxide (7722-84-1)

Fish: 96 Hr LC50 Pimephales promelas: 16.4 mg/L; 96 Hr LC50 Lepomis macrochirus: 18 - 56 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 10.0 - 32.0 mg/L [static]

Invertebrate: 48 Hr EC50 Daphnia magna: 18 - 32 mg/L [Static]

12.2 Persistence and Degradability

No information available for the product.

12.3 Bioaccumulative Potential

No information available for the product.

12.4 Mobility in Soil

No information available for the product.

12.5 Results of PBT and vPvB Assessment

No information available.

EU - Interim Strategy for Management of PBT and vPvB Substances (PBT Assessments)

No components of this material are listed.

12.6 Other Adverse Effects

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

13.1.1 Product/Packaging Disposal

For disposal within the EC, use the appropriate code according to European Waste Catalogue (EWC).

13.1.2 Waste Treatment Relevant Information

Dispose in accordance with all applicable regulations.

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13.1.3 Sewage Disposal Relevant Information

Prevent entry into sewers, drains, ditches, underground or confined spaces and waterways.

13.1.4 Other Disposal Recommendations

Dispose in accordance with all applicable regulations.

Section 14 - TRANSPORT INFORMATION

Transportation

Not regulated as dangerous goods

International Bulk Chemical Code

This material contains one or more of the following chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

Hydrogen peroxide (7722-84-1)

IBC Code: Category Y (solutions, >60% but not >70% by mass); Category Y (solutions, >8% but not >60% by mass)

Section 15 - REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations / Legislation Specific for the Substance or Mixture

EU - REACH (1907/2006) - Annex XIV List of Substances Subject to Authorisation

No components of this material are listed.

EU - REACH (1907/2006) - Article 59(1) Candidate List of Substances for Eventual Inclusion in Annex XIV

No components of this material are listed.

EU - REACH (1907/2006) - Annex XVII Restrictions of Certain Dangerous Substances, Mixtures and Articles

No components of this material are listed.

Germany Regulations

Germany Water Classification

Hydrogen peroxide (7722-84-1)

ID Number 288, hazard class 1 - low hazard to waters (footnote 8)

Denmark Regulations

Environmental Protection Agency List of Undesirable Substances

No components of this material are listed.

Threshold of Exposure Concentrations of VOCs

No components of this material are listed.

France Water Pollution

No components of this material are listed.

Inventory

Substance Analysis - Inventory

Component	CAS	EEC
Hydrogen peroxide	7722-84-1	EIN

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for the substance/mixture.

Section 16 - OTHER INFORMATION

16.1 Indication of changes

New SDS: 18 April 2016

16.2 Key / Legend to abbreviations and acronyms used in the safety data sheet

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ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AIHA - American Industrial Hygiene Association; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling and Packaging; DNEL - Derived No Effect Level; DOT - Department of Transportation; DSD - Dangerous Substances Directive (67/548/EEC); DSL - Domestic Substances List; EC50 - Effective Concentration, 50%; EEC - European Economic Community; EIN (EINECS) - European Inventory of Existing Commercial Chemical Substances; ELN (ELINCS) - European List of Notified Chemical Substances; EPA - Environmental Protection Agency; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC Code - International Bulk Chemical Code; IMDG - International Maritime Dangerous Goods; Kow - Octanol/water partition coefficient; LC50 - Lethal Concentration, 50%; LD50 - Lethal Dose, 50%; LEL - Lower Explosive Limit; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NTP - National Toxicology Program; OSHA - Occupational Safety and Health Administration; PNEC - Predicted No Effect Concentration; REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; WHMIS - Workplace Hazardous Materials Information System

16.3 Key literature references and sources for data

Available upon request

16.4 Methods used for classification of mixture according to Regulation (EC) No 1272/2008

Available upon request

16.5 Full text of H- phrases in Section 3

H271 May cause fire or explosion; strong oxidizer.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H332 Harmful if inhaled.

16.6 Training Advice

Read the Safety Data Sheet before handling product.

16.7 Other Information

Disclaimer: Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights.

End of Sheet F-1003