

SPIRAX SARCO DELTA SPERCEHazard Alert Code:
HIGH

Chemwatch Material Safety Data Sheet

Revision No: 3

Chemwatch 8084-92

Issue Date: 29-Jan-2010

CD 2010/1

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**PRODUCT NAME**

Spirax Sarco Delta Sperce

SYNONYMS

"cooling water biocide", "formerly Deltasperse Red"

PROPER SHIPPING NAME

SODIUM HYDROXIDE SOLUTION

PRODUCT USE

Biocide for open cooling water systems.

SUPPLIER

Company: Spirax Sarco Pty Ltd

Address:

72 Mica Street

Carole Park

QLD, 4300

AUS

Telephone: +61 7 3879 4944

Telephone: +61 414 355 619 A/H

Fax: +61 7 3271 4589

Section 2 - HAZARDS IDENTIFICATION**STATEMENT OF HAZARDOUS NATURE****HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to NOHSC Criteria, and ADG Code.****HAZARD RATINGS**

	Min	Max
Flammability:	0	
Toxicity:	0	
Body Contact:	3	
Reactivity:	0	
Chronic:	0	

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4

**POISONS SCHEDULE**

S5

RISK	SAFETY
■ Causes burns.	■ Keep locked up.
■ Risk of serious damage to eyes.	■ Do not breathe gas/ fumes/ vapour/ spray.
■ Cumulative effects may result following exposure*.	■ Avoid contact with eyes.
* (limited evidence).	■ Wear suitable protective clothing.
	■ To clean the floor and all objects contaminated by this material use water.
	■ Take off immediately all contaminated clothing.
	■ In case of accident or if you feel unwell IMMEDIATELY contact Doctor or Poisons Information Centre (show label if possible).
	■ This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
sodium hydroxide	1310-73-2	1-4
surfactant		1-10
water	7732-18-5	>60

NOTE: Manufacturer has supplied full ingredient information to allow CHEMWATCH assessment.

Section 4 - FIRST AID MEASURES

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SWALLOWED

-
- For advice, contact a Poisons Information Centre or a doctor.
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

EYE

- If this product comes in contact with the eyes:
 - Immediately hold eyelids apart and flush the eye continuously with running water.
 - Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
 - Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
 - Transport to hospital or doctor without delay.
 - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- If skin contact occurs:
 - Immediately remove all contaminated clothing, including footwear.
 - Flush skin and hair with running water (and soap if available).
 - Seek medical attention in event of irritation.

INHALED

-
- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

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Section 5 - FIRE FIGHTING MEASURES

No data for this material.

HAZCHEM

2R

PERSONAL PROTECTION

Glasses:

Safety Glasses.

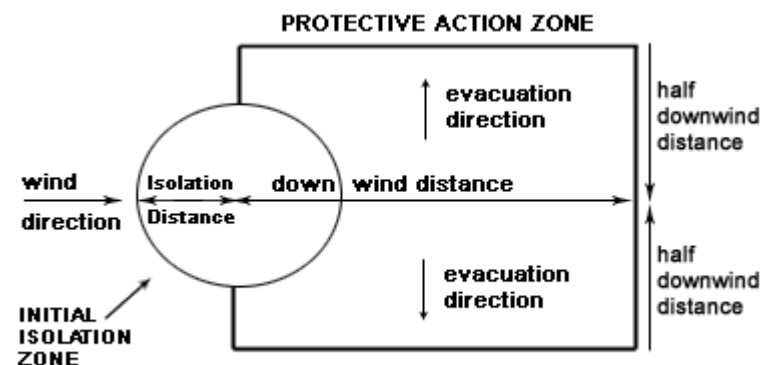
Section 6 - ACCIDENTAL RELEASE MEASURES**EMERGENCY PROCEDURES**

MINOR SPILLS

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MAJOR SPILLS

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PROTECTIVE ACTIONS FOR SPILL

From IERG (Canada/Australia)

Isolation Distance 25 metres

Downwind Protection Distance 250 metres

IERG Number 37

FOOTNOTES

1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.

2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or

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irreversible health effects.

3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.

4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills". LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.

5 Guide 154 is taken from the US DOT emergency response guide book.

6 IERG information is derived from CANUTEC - Transport Canada.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

No data for this material.

SUITABLE CONTAINER

-
- Polyethylene or polypropylene container.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.
- DO NOT use aluminium, galvanised or tin-plated containers

STORAGE INCOMPATIBILITY

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STORAGE REQUIREMENTS

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SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



X: Must not be stored together

O: May be stored together with specific preventions

+: May be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC	Notes
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Australia Exposure Standards sodium hydroxide (Sodium hydroxide)

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The following materials had no OELs on our records

- water: CAS:7732-18-5

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m ³)	Revised IDLH Value (ppm)
sodium hydroxide	10	

MATERIAL DATA

SPIRAX SARCO DELTA SPERCE:

Not available

SODIUM HYDROXIDE:

- for sodium hydroxide:

The TLV-C is recommended based on concentrations that produce noticeable but not excessive, ocular and upper respiratory tract irritation.

WATER:

- No exposure limits set by NOHSC or ACGIH.

PERSONAL PROTECTION



EYE

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HANDS/FEET

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OTHER

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The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

No data for this material.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**APPEARANCE**

Clear pale yellow alkaline liquid; mixes with water.

PHYSICAL PROPERTIES

Liquid.

Mixes with water.

Corrosive.

State	Liquid	Molecular Weight	Not applicable
Melting Range (°C)	-8	Viscosity	Not available
Boiling Range (°C)	100	Solubility in water (g/L)	Miscible
Flash Point (°C)	Not applicable	pH (1% solution)	Not available
Decomposition Temp (°C)	Not available	pH (as supplied)	12.0 - 13.5
Autoignition Temp (°C)	Not applicable	Vapour Pressure (kPa)	Not available
Upper Explosive Limit (%)	Not applicable	Specific Gravity (water=1)	1.02 - 1.04
Lower Explosive Limit (%)	Not applicable	Relative Vapour Density (air=1)	Not available
Volatile Component (%vol)	Not available	Evaporation Rate	Not available

Section 10 - CHEMICAL STABILITY**CONDITIONS CONTRIBUTING TO INSTABILITY**

No data for this material.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION**POTENTIAL HEALTH EFFECTS****ACUTE HEALTH EFFECTS****SWALLOWED**

- Considered an unlikely route of entry in commercial/industrial environments.

The liquid is discomforting and corrosive if swallowed and is capable of causing burns to mouth, throat, oesophagus, with extremediscomfort, pain. Ingestion may result in nausea, abdominal irritation, pain and vomiting.

EYE

- The liquid is corrosive to the eyes and is capable of causing burns.

The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

SKIN

- The liquid is corrosive to the skin and is capable of causing burns.

Reaction to contact with broken skin is prompt and intense. Reaction to contact with intact skin apart from initial soapy feeling may be delayed, but unless removed quickly will result in pain and burns, which may proceed to deep ulceration with scarring.

Bare unprotected skin should not be exposed to this material.

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The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

INHALED

■ Not normally a hazard due to non-volatile nature of product.

The vapour/mist is highly discomforting and corrosive to the upper respiratory tract and lungs if inhaled.

The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function.

CHRONIC HEALTH EFFECTS

■ The material is considered to be harmful by all exposure routes.

Principal routes of exposure are usually by skin contact with the material.

eye contact.

with the material and accidental ingestion.

TOXICITY AND IRRITATION

■ Not available. Refer to individual constituents.

SODIUM HYDROXIDE:

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY	IRRITATION
	Skin (rabbit): 500 mg/24h SEVERE
	Eye (rabbit): 0.05 mg/24h SEVERE
	Eye (rabbit):1 mg/24h SEVERE
	Eye (rabbit):1 mg/30s rinsed-SEVERE

■ Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.

WATER:

■ No significant acute toxicological data identified in literature search.

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

SPIRAX SARCO DELTA SPERCE:**SODIUM HYDROXIDE:**

■ Metal-containing inorganic substances generally have negligible vapour pressure and are not expected to partition to air. Once released to surface waters and moist soils their fate depends on solubility and dissociation in water. Environmental processes (such as oxidation and the presence of acids or bases) may transform insoluble metals to more soluble ionic forms. Microbiological processes may also transform insoluble metals to more soluble forms. Such ionic species may bind to dissolved ligands or sorb to solid particles in aquatic or aqueous media. A significant proportion of dissolved/sorbed metals will end up in sediments through the settling of suspended particles. The remaining metal ions can then be taken up by aquatic organisms.

When released to dry soil most metals will exhibit limited mobility and remain in the upper layer; some will leach locally into ground water and/ or surface water ecosystems when soaked by rain or melt ice. Environmental processes may also be important in changing solubilities.

Even though many metals show few toxic effects at physiological pHs, transformation may introduce new or magnified effects.

A metal ion is considered infinitely persistent because it cannot degrade further.

The current state of science does not allow for an unambiguous interpretation of various measures of bioaccumulation.

The counter-ion may also create health and environmental concerns once isolated from the metal. Under normal physiological conditions the counter-ion may be essentially insoluble and may not be bioavailable.

Environmental processes may enhance bioavailability.

■ Prevent, by any means available, spillage from entering drains or water courses.

■ DO NOT discharge into sewer or waterways.

Ecotoxicity:

Fish LC50 (96h): 43mg/l

WATER:**Ecotoxicity**

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
sodium hydroxide	LOW		LOW	HIGH
water	LOW		LOW	HIGH

Section 13 - DISPOSAL CONSIDERATIONS

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Section 14 - TRANSPORTATION INFORMATION

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Labels Required: CORROSIVE

HAZCHEM:

2R (ADG7)

ADG7:

Class or division:	8	Subsidiary risk:	None
UN No.:	1824	UN packing group:	III
Special provisions:	223	Packing Instructions:	None
Notes:	None	Limited quantities:	5 L
Portable tanks and bulk containers - Instructions:	T4	Portable tanks and bulk containers - Special provisions:	TP1
Packagings and IBCs - Packing instruction:	P001; IBC03; LP01	Packagings and IBCs - Special packing provisions:	None

Shipping Name: SODIUM HYDROXIDE SOLUTION

Land Transport UNDG:

Class or division:	8	Subsidiary risk:	None
UN No.:	1824	UN packing group:	III

Shipping Name: SODIUM HYDROXIDE SOLUTION

Air Transport IATA:

ICAO/IATA Class:	8	ICAO/IATA Subrisk:	None
UN/ID Number:	1824	Packing Group:	III
Special provisions:	A3		

Shipping Name: SODIUM HYDROXIDE SOLUTION

Maritime Transport IMDG:

IMDG Class:	8	IMDG Subrisk:	None
UN Number:	1824	Packing Group:	III
EMS Number:	F-A,S-B	Special provisions:	None

Limited Quantities: 1 L

Shipping Name: SODIUM HYDROXIDE SOLUTION

Section 15 - REGULATORY INFORMATION**POISONS SCHEDULE**

S5

REGULATIONS

Regulations for ingredients

sodium hydroxide (CAS: 1310-73-2) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Illicit Drug Reagents/Essential Chemicals - Category III", "Australia Inventory of Chemical Substances (AICS)", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 6", "CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

water (CAS: 7732-18-5) is found on the following regulatory lists;

"Australia Inventory of Chemical Substances (AICS)", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "OECD Representative List of High Production Volume (HPV) Chemicals"

No data for Spirax Sarco Delta Sperce (CW: 8084-92)**Section 16 - OTHER INFORMATION**

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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