SAFETY DATA SHEET



SeaQuest Endura Comp B

Section 1. Identification

GHS product identifier : SeaQuest Endura Comp B

Product code : 44462

Other means of identification

: Not available.

Product type : Liquid.
Product description : Hardener.

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

Use in coatings - Industrial use
Use in coatings - Professional use

Supplier's details : 佐敦涂料(张家港)有限公司

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Section 2. Hazards identification

Classification of the substance or mixture

: FLAMMABLE LIQUIDS - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A

GHS label elements

Hazard pictograms



Signal word : Warning.

Date of issue/Date of revision : 25.11.2024 Date of previous issue : 06.08.2024 Version : 1.06 1/10

Section 2. Hazards identification

Hazard statements : H227 - Combustible liquid.

H319 - Causes serious eye irritation.

Precautionary statements

Prevention : P280 - Wear eye or face protection.

P210 - Keep away from flames and hot surfaces. No smoking.

: P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Response

> Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.

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

: P501 - Dispose of contents and container in accordance with all local, regional, **Disposal**

national and international regulations.

Other hazards which do not : None known.

result in classification

Section 3. Composition/information on ingredients

Substance/mixture : Mixture Other means of identification

: Not available.

Product name	% (w/w)	CAS number	Type
tetraethyl silicate	≥10 - <20	78-10-4	[1]
物品名稱	% (w/w)	化學文摘社登記號碼(CAS No.)	類型
四乙氧基硅烷	≥10 - <20	78-10-4	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower

evelids. Check for and remove any contact lenses. Continue to rinse for at least 10

minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing.

> If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen

tight clothing such as a collar, tie, belt or waistband.

: Flush contaminated skin with plenty of water. Remove contaminated clothing and **Skin contact** shoes. Get medical attention if symptoms occur. Wash clothing before reuse.

Clean shoes thoroughly before reuse. Ingestion

: Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such

Date of issue/Date of revision : 25.11.2024 Version : 1.06 Date of previous issue : 06.08.2024 2/10

Section 4. First aid measures

as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation
 Skin contact
 No known significant effects or critical hazards.
 Ingestion
 No known significant effects or critical hazards.
 No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

: Treat symptomatically. Contact poison treatment specialist immediately if large

quantities have been ingested or inhaled.

Specific treatments

: No specific treatment.

Protection of first-aiders

: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing

media

: Use dry chemical, CO2, water spray (fog) or foam.

Unsuitable extinguishing

media

: Do not use water jet.

Specific hazards arising from the chemical

: Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products

: Decomposition products may include the following materials: carbon dioxide

carbon monoxide metal oxide/oxides

Special protective actions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters

: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Date of issue/Date of revision : 25.11.2024 Date of previous issue : 06.08.2024 Version : 1.06 3/10

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with noncombustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

including any incompatibilities

Conditions for safe storage, : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and wellventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Date of issue/Date of revision : 25.11.2024 : 06.08.2024 Version: 1.06 Date of previous issue

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Respiratory protection

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Hand protection

: There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Wear suitable gloves tested to ISO 374-1:2016.

Recommended, gloves(breakthrough time) > 8 hours: butyl rubber (> 0.4 mm), Viton® (> 0.7 mm)

For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves.

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Eye protection

: Safety eyewear complying to ISO 16321-1:2022 should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Body protection

: Use chemical-resistant protective suit / disposable overall.

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Date of issue/Date of revision : 25.11.2024 Date of previous issue : 06.08.2024 Version : 1.06 5/10

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.
Colour : Clear.

Odour : Characteristic.

Odour threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not applicable.

Boiling point, initial boiling : Not available.

point, and boiling range

Flash point : Closed cup: 62°C (143.6°F)

Flammability : Not available.

Lower and upper explosion limit/flammability limit

: Greatest known range: Lower: 1.3% Upper: 23% (tetraethyl silicate)

Vapour pressure :

	V	Vapour Pressure at 20°C		V	apour pres	ssure at 50°C
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
ethanol	42.94865	5.7				
Silicic acid, ethyl ester	5.4	0.72				
tetraethyl silicate	0.82	0.11				

Relative vapour density : Not available. **Density** : 1.06 g/cm³

Solubility(ies)

Media	Result
cold water	Not soluble
hot water	Not soluble

Partition coefficient: n- : Not applicable.

octanol/water

Auto-ignition temperature

Ingredient name	°C	°F	Method
tetraethyl silicate	222	431.6	
ethanol	455	851	DIN 51794

Decomposition temperature: Not available.

Viscosity : Kinematic (40°C (104°F)): >20.5 mm²/s (>20.5 cSt)

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Chemical stability: The product is stable.

Possibility of hazardous

reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld,

braze, solder, drill, grind or expose containers to heat or sources of ignition.

Date of issue/Date of revision : 25.11.2024 Date of previous issue : 06.08.2024 Version : 1.06 6/10

Section 10. Stability and reactivity

Incompatible materials : Reactive or incompatible with the following materials:

oxidising materials

Hazardous decomposition

products

: Under normal conditions of storage and use, hazardous decomposition products

should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
tetraethyl silicate	Eyes - Mild irritant	Mammal - species unspecified	-	-	-

Sensitisation

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
tetraethyl silicate	Category 3		Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes: Not available.

of exposure

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation: No known significant effects or critical hazards.Skin contact: No known significant effects or critical hazards.Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Date of issue/Date of revision : 25.11.2024 Date of previous issue : 06.08.2024 Version : 1.06 7/10

Section 11. Toxicological information

Eye contact: Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation: No specific data.Skin contact: No specific data.Ingestion: No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.
 Carcinogenicity : No known significant effects or critical hazards.
 Mutagenicity : No known significant effects or critical hazards.
 Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/ kg)	Dermal (mg/kg)	(3 /	(vapours)	Inhalation (dusts and mists) (mg/l)
SeaQuest Endura Comp B tetraethyl silicate	N/A N/A		N/A N/A	91.7 11	N/A N/A

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
tetraethyl silicate	3.18	-	low

Mobility in soil

Soil/water partition : Not available. coefficient (Koc)

Date of issue/Date of revision : 25.11.2024 Date of previous issue : 06.08.2024 Version : 1.06 8/10

Section 12. Ecological information

Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and

Section 14. Transport information

	UN	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according: Not available. to IMO instruments

Section 15. Regulatory information

TCCSCA List of toxic chemicals

Not applicable.

TCCSCA List of concerned chemicals

Not applicable.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Date of issue/Date of revision : 25.11.2024 : 06.08.2024 Version: 1.06 9/10 Date of previous issue

Section 15. Regulatory information

Stockholm Convention on Persistent Organic Pollutants

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A	On basis of test data Calculation method

References : Not available.

Organisation that prepared : Jotun AS, Norway +47 33 45 70 00

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Version : 1.06

Key to abbreviations : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships,

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available SGG = Segregation Group UN = United Nations

▼ Indicates information that has changed from previously issued version.

Notice to reader

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.

Date of issue/Date of revision : 25.11.2024 Date of previous issue : 06.08.2024 Version : 1.06 10/10