



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 07/17/2019

Reviewed on 07/17/2019

1 Identification

- **Product Identifier**
- **Trade Name:** S.E.A.L.
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** Aerosolized Hemostatic Spray
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**
BC3 Technologies
3701-A South Western Blvd
Baltimore, MD 21229
O-410-342-6100
F-410-675-1636
waynegrube@bc3tech.com
www.bc3tech.com
- **Emergency telephone number:** 410-342-6100

2 Hazard(s) Identification

- **Classification of the substance or mixture:**



Gas cylinder

Press. Gas H280 Contains gas under pressure; may explode if heated.



Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

- **Label elements:**
- **Hazard pictograms:**



- **Signal word:** Warning
- **Hazard statements:**
H280 Contains gas under pressure; may explode if heated.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
- **Precautionary statements:**
P273 Avoid release to the environment.
P391 Collect spillage.
P410+P403 Protect from sunlight. Store in a well-ventilated place.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Unknown acute toxicity:**
This value refers to knowledge of known, established toxicological or ecotoxicological values.
50 % of the mixture consists of component(s) of unknown toxicity.
- **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

(Contd. on page 2)



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 07/17/2019

Reviewed on 07/17/2019

Trade Name: S.E.A.L.

· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)



· Hazard(s) not otherwise classified (HNOC): None known

3 Composition/Information on Ingredients

· Non-hazardous components:

29118-24-9 (E)-1,3,3,3-tetrafluoroprop-1-ene	25-50%
--	--------

· Chemical characterization: Mixtures

· Description: Non-Regulated Material

· Dangerous Components:

9012-76-4 Chitosan	Aquatic Acute 1, H400; Aquatic Chronic 1, H410	25-50%
--------------------	--	--------

· Additional information:

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

4 First-Aid Measures

· Description of first aid measures

· After inhalation: Supply fresh air; consult doctor in case of complaints.

· After skin contact: If skin irritation occurs, consult a doctor.

· After eye contact:

If eye irritation occurs, consult a doctor.

Rinse opened eye for several minutes under running water.

· After swallowing: If swallowed and symptoms occur, consult a doctor.

· Information for doctor

· Most important symptoms and effects, both acute and delayed: No further relevant information available.

· Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

5 Fire-Fighting Measures

· Extinguishing media

· Suitable extinguishing agents: Use fire fighting measures that suit the environment.

· For safety reasons unsuitable extinguishing agents: No further relevant information.

· Special hazards arising from the substance or mixture: No further relevant information available.

· Advice for firefighters

· Special protective equipment for firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

· Personal precautions, protective equipment and emergency procedures: Not required.

(Contd. on page 3)



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 07/17/2019

Reviewed on 07/17/2019

Trade Name: S.E.A.L.**Environmental precautions:**

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/surface or ground water.

Methods and material for containment and cleaning up:

Dispose of the collected material according to regulations.

Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

Protective Action Criteria for Chemicals**PAC-1:**

29118-24-9	(E)-1,3,3,3-tetrafluoroprop-1-ene	1,400 ppm
------------	-----------------------------------	-----------

PAC-2:

29118-24-9	(E)-1,3,3,3-tetrafluoroprop-1-ene	15,000 ppm
------------	-----------------------------------	------------

PAC-3:

29118-24-9	(E)-1,3,3,3-tetrafluoroprop-1-ene	69,000 ppm
------------	-----------------------------------	------------

7 Handling and Storage

Handling**Precautions for safe handling:** No special precautions are necessary if used correctly.**Information about protection against explosions and fires:** No special measures required.**Conditions for safe storage, including any incompatibilities****Storage****Requirements to be met by storerooms and receptacles:** Store in a cool location.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.**Specific end use(s):** No further relevant information available.

8 Exposure Controls/Personal Protection

Additional information about design of technical systems: No further data; see section 7.**Control parameters:****Components with occupational exposure limits:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation of this SDS were used as basis.**Exposure controls:****Personal protective equipment****General protective and hygienic measures:** Wash hands before breaks and at the end of work.**Breathing equipment:** Not required.**Protection of hands:** Not required.**Material of gloves:** Not applicable.**Penetration time of glove material:** Not applicable.**Eye protection:** Not required.**Limitation and supervision of exposure into the environment:**

Keep away from drains, surface and ground waters.

Avoid release into the environment.

(Contd. on page 4)



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 07/17/2019

Reviewed on 07/17/2019

Trade Name: S.E.A.L.

* 9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:

Aerosol

Color:

Pale yellow

· Odor:

Characteristic

· Odor threshold:

Not determined.

· pH-value:

Not applicable.

· Change in condition

Melting point/Melting range:

Not determined.

Boiling point/Boiling range:

Not determined.

· Flash point:

None

· Flammability (solid, gaseous):

Not determined.

· Ignition temperature:

Not applicable

· Decomposition temperature:

Not determined.

· Auto igniting:

Product is not self-igniting.

· Danger of explosion:

Not determined.

· Explosion limits:

Lower:

Not determined.

Upper:

Not determined.

· Vapor pressure:

Not determined.

· Density:

Relative density:

Not determined.

Vapor density:

Not determined.

Evaporation rate:

Not applicable.

· Solubility in / Miscibility with:

Water:

Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water):

Not determined.

· Viscosity:

Dynamic:

Not determined.

Kinematic:

Not determined.

· Solvent content:

VOC content:

0.00 %

Solids content:

50.0 %

· Other information:

No further relevant information available.

10 Stability and Reactivity

· Reactivity: No further relevant information available.

· Chemical stability:

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

· Possibility of hazardous reactions: No dangerous reactions known.

· Conditions to avoid: No further relevant information available.

(Contd. on page 5)



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 07/17/2019

Reviewed on 07/17/2019

Trade Name: S.E.A.L.

- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** No data available.
- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** No irritating effect.
- **Additional toxicological information:**
- **Carcinogenic categories:**

· IARC (International Agency for Research on Cancer):
--

None of the ingredients are listed.

· NTP (National Toxicology Program):

None of the ingredients are listed.

· OSHA-Ca (Occupational Safety & Health Administration):

None of the ingredients are listed.

12 Ecological Information

- **Toxicity:**
- **Aquatic toxicity:**
Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
- **Persistence and degradability:** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential:** No further relevant information available.
- **Mobility in soil:** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.
Poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:** No further relevant information available.

13 Disposal Considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Observe all federal, state and local environmental regulations when disposing of this material.
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.

(Contd. on page 6)

**Safety Data Sheet (SDS)**

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 07/17/2019

Reviewed on 07/17/2019

Trade Name: **S.E.A.L.****14 Transport Information**

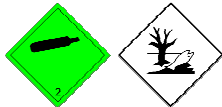
- **UN-Number:** UN1956
- **DOT, ADR/ADN, IMDG, IATA** UN1956
- **UN proper shipping name:** Compressed gas, n.o.s.
- **DOT** UN1956 COMPRESSED GAS, N.O.S. (Chitosan), ENVIRONMENTALLY HAZARDOUS
- **ADR/ADN** COMPRESSED GAS, N.O.S. (Chitosan), MARINE POLLUTANT
- **IMDG** COMPRESSED GAS, N.O.S. (Chitosan)
- **IATA** COMPRESSED GAS, N.O.S. (Chitosan)
- **Transport hazard class(es):**
- **DOT**



- **Class:** 2 Gases
- **Label:** 2.2

ADR/ADN

- **Class:** 2 1A Gases
- **Label:** 2.2

IMDG

- **Class:** 2 Gases
- **Label:** 2.2

IATA

- **Class:** 2 Gases
- **Label:** 2.2
- **Packing group:**
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:**
- **Special marking (ADR/ADN):** Symbol (fish and tree)
- **Special precautions for user:** Warning: Gases
- **Danger code (Kemler):** 20
- **EMS Number:** F-C,S-V
- **Stowage Category** A

(Contd. on page 7)



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 07/17/2019

Reviewed on 07/17/2019

Trade Name: S.E.A.L.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **Transport/Additional information:**
- **DOT**
- **Quantity limitations:** On passenger aircraft/rail: 75 kg
On cargo aircraft only: 150 kg
- **Remarks:** Special marking with the symbol (fish and tree).
- **ADR/ADN**
- **Excepted quantities (EQ):** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
- **IMDG**
- **Limited quantities (LQ):** 120 ml
- **Excepted quantities (EQ):** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
- **UN "Model Regulation":** UN 1956 COMPRESSED GAS, N.O.S. (CHITOSAN), 2.2, ENVIRONMENTALLY HAZARDOUS

15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- **SARA (Superfund Amendments and Reauthorization):**

- **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

- **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

- **Hazardous Air Pollutants**

None of the ingredients are listed.

- **California Proposition 65:**

- **Chemicals known to cause cancer:**

None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

- **New Jersey Right-to-Know List:**

None of the ingredients are listed.

- **New Jersey Special Hazardous Substance List:**

None of the ingredients are listed.

(Contd. on page 8)



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 07/17/2019

Reviewed on 07/17/2019

Trade Name: S.E.A.L.**· Pennsylvania Right-to-Know List:**

None of the ingredients are listed.

· Pennsylvania Special Hazardous Substance List:

None of the ingredients are listed.

· Carcinogenic categories:**· EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· TLV (Threshold Limit Value established by ACGIH):

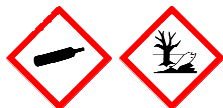
None of the ingredients are listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health):

None of the ingredients are listed.

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms:**· Signal word:** Warning**· Hazard statements:**

H280 Contains gas under pressure; may explode if heated.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

· Precautionary statements:

P273 Avoid release to the environment.

P391 Collect spillage.

P410+P403 Protect from sunlight. Store in a well-ventilated place.

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

· National regulations:

None of the ingredients are listed.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· Date of last revision/ revision number: 07/17/2019 / 1**· Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

(Contd. on page 9)



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 07/17/2019

Reviewed on 07/17/2019

Trade Name: S.E.A.L.

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety & Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Press. Gas: Gases under pressure – Compressed gas

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

· *** Data compared to the previous version altered.**

SDS created by MSDS Authoring Services www.msdsauthoring.com +1-877-204-9106