

TRITON X-100

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 12/16/2014

Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Trade name : TRITON X-100
CAS No : 9002-93-1
Product code : AB02025
Formula : C34H62O12

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

Use of the substance/mixture : Laboratory use/Manufacturing component/Research
Use of the substance/mixture : Surfactant

1.3. Details of the supplier of the safety data sheet

AmericanBio, Inc.
15 Erie Dr.
Natick, MA 01760 - USA
T 800.443.0600 - F 508.655.2754
info@americanbio.com - www.americanbio.com

1.4. Emergency telephone number

Emergency number : 855.835.2572 (U.S.) :: 760.602.8703 (Outside U.S.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Acute Tox. 4 (Oral) H302
Eye Dam. 1 H318

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H302 - Harmful if swallowed
H318 - Causes serious eye damage
Precautionary statements (GHS-US) : P264 - Wash hands, forearms and face thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear eye protection, protective clothing, protective gloves
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P330 - If swallowed, rinse mouth
P501 - Dispose of contents/container to Local/Federal regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

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| Name | Product identifier | % | Classification (GHS-US) |
|------------------------------------|--------------------|-----|---|
| TRITON X-100 (Main constituent) | (CAS No) 9002-93-1 | 100 | Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318 |

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures general | : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Assure fresh air breathing. Allow the victim to rest. |
| First-aid measures after skin contact | : Rinse with water. Soap may be used. Take victim to a doctor if irritation persists. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. |
| First-aid measures after eye contact | : Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. |
| First-aid measures after ingestion | : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor/physician if you feel unwell. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|--------------------------------------|--|
| Symptoms/injuries after inhalation | : No data available. |
| Symptoms/injuries after skin contact | : Slight irritation. |
| Symptoms/injuries after eye contact | : Irritation of the eye tissue. Inflammation/damage of the eye tissue. Causes serious eye damage. |
| Symptoms/injuries after ingestion | : AFTER ABSORPTION OF HIGH QUANTITIES: Nausea. Vomiting. Diarrhoea. Swallowing a small quantity of this material will result in serious health hazard. |
| Chronic symptoms | : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation. |

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|---|
| suitable extinguishing media | : BC powder. Carbon dioxide. MAJOR FIRE: Water spray. Polyvalent foam. Alcohol-resistant foam. Foam. Dry powder. Carbon dioxide. Water spray. Sand. |
| Unsuitable extinguishing media | : No unsuitable extinguishing media known. Do not use a heavy water stream. |

5.2. Special hazards arising from the substance or mixture

| | |
|------------------|---|
| Fire hazard | : DIRECT FIRE HAZARD. Not easily combustible. INDIRECT FIRE HAZARD. Temperature above flashpoint: higher fire/explosion hazard. |
| Explosion hazard | : DIRECT EXPLOSION HAZARD. No data available on direct explosion hazard. INDIRECT EXPLOSION HAZARD. No data available on indirect explosion hazard. |
| Reactivity | : Upon combustion: CO and CO2 are formed. Reacts with (strong) oxidizers. And with (strong) reducers. |

5.3. Advice for firefighters

| | |
|--------------------------------|--|
| Precautionary measures fire | : Exposure to fire/heat: keep upwind. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows. |
| Firefighting instructions | : No specific fire-fighting instructions required. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment. |
| Protection during firefighting | : Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection. |

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Safety glasses. Protective clothing.
Emergency procedures : Mark the danger area. No naked flames. Wash contaminated clothes. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.
Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply.
Methods for cleaning up : Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Comply with the legal requirements. Clean contaminated clothing. Keep away from naked flames/heat. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands/forearms/face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight. Keep container closed when not in use.
Incompatible products : Strong bases. strong acids.
Incompatible materials : Sources of ignition. Direct sunlight.
Storage temperature : 15 - 25 °C
Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.
Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. reducing agents. (strong) acids. (strong) bases.
Storage area : Meet the legal requirements.
Special rules on packaging : SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials : SUITABLE MATERIAL: metal. glass. MATERIAL TO AVOID: copper. bronze.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.
Materials for protective clothing : GIVE GOOD RESISTANCE: PVC.
Hand protection : Gloves. Wear protective gloves.

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| | |
|--------------------------|---|
| Eye protection | : Safety glasses. Chemical goggles or safety glasses. |
| Skin and body protection | : Protective clothing. |
| Respiratory protection | : Respiratory protection not required in normal conditions. Wear approved mask. |
| Other information | : When using, do not eat, drink or smoke. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|--|
| Physical state | : Liquid |
| Appearance | : Liquid. |
| Molecular mass | : 646.37 g/mol |
| Color | : Colourless to light yellow. |
| Odor | : Mild odour. |
| Odor threshold | : No data available |
| pH | : 9.7 |
| Relative evaporation rate (butyl acetate=1) | : < 1 |
| Melting point | : 6 °C |
| Freezing point | : No data available |
| Boiling point | : 270 °C |
| Flash point | : 251 °C |
| Self ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapor pressure | : < 0.1 hPa |
| Relative vapor density at 20 °C | : > 1 |
| Relative density | : 1.1 |
| Density | : 1070 kg/m ³ |
| Solubility | : Soluble in water. Soluble in ethanol. Soluble in acetone. Soluble in aromatic hydrocarbons. Water: Complete |
| Log Pow | : 4.86 (Estimated value) |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Explosive limits | : No data available |

9.2. Other information

| | |
|------------------|--|
| VOC content | : 0 % |
| Other properties | : Gas/vapour heavier than air at 20°C. Clear. Slightly volatile. Substance has basic reaction. |

SECTION 10: Stability and reactivity

10.1. Reactivity

Upon combustion: CO and CO₂ are formed. Reacts with (strong) oxidizers. And with (strong) reducers.

10.2. Chemical stability

Stable under normal conditions. Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

| TRITON X-100 (1f)9002-93-1 | |
|------------------------------|----------------------------|
| LD50 oral rat | 1800 mg/kg (Rat) |
| LD50 dermal rabbit | > 3000 mg/kg (Rabbit) |
| ATE (oral) | 1800.000 mg/kg body weight |

Skin corrosion/irritation : Not classified

pH: 9.7

Serious eye damage/irritation : Causes serious eye damage.

pH: 9.7

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met. Harmful if swallowed.

Symptoms/injuries after inhalation : No data available.

Symptoms/injuries after skin contact : Slight irritation.

Symptoms/injuries after eye contact : Irritation of the eye tissue. Inflammation/damage of the eye tissue. Causes serious eye damage.

Symptoms/injuries after ingestion : AFTER ABSORPTION OF HIGH QUANTITIES: Nausea. Vomiting. Diarrhoea. Swallowing a small quantity of this material will result in serious health hazard.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Mild water pollutant (surface water). Toxic to fishes. Harmful to invertebrates (Daphnia). pH shift.

| TRITON X-100 (9002-93-1) | |
|--------------------------------|---|
| LC50 fish 1 | > 10 mg/l (96 h; Lepomis macrochirus; Toxicity test) |
| EC50 Daphnia 1 | 26 mg/l (48 h; Daphnia magna) |
| EC50 other aquatic organisms 1 | 10 mg/l (336 h; Lemna sp.; Biomass) |
| LC50 fish 2 | 8.9 mg/l (96 h; Pimephales promelas) |
| Threshold limit algae 1 | 500 mg/l (504 h; Selenastrum capricornutum; Cell numbers) |

12.2. Persistence and degradability

| TRITON X-100 (9002-93-1) | |
|-------------------------------|--|
| Persistence and degradability | Biodegradable in water. Not established. |
| ThOD | 2.16 g O ₂ /g substance |

12.3. Bioaccumulative potential

| TRITON X-100 (9002-93-1) | |
|---------------------------|------------------------|
| Log Pow | 4.86 (Estimated value) |
| Bioaccumulative potential | Not established. |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--------------------------------|--|
| Waste disposal recommendations | : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Dissolve or mix with a combustible solvent. In authorized incinerator equipped with flue gas scrubber with energy recovery. Avoid discharge of large amounts into the sewer. May be discharged to wastewater treatment installation. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to Local/Federal regulations. |
| Additional information | : LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC. |
| Ecology - waste materials | : Avoid release to the environment. |

SECTION 14: Transport information

In accordance with DOT

No dangerous good in sense of transport regulations

Additional information

| | |
|----------------------------------|--|
| Other information | : No supplementary information available. |
| State during transport (ADR-RID) | : Rail and road transport: not subject to ADR-RID. |

ADR

| | |
|---|----------|
| Transport document description | : UN N/A |
| Packing group (ADR) | : N/A |
| Hazard identification number (Kemler No.) | : N/A |
| Classification code (ADR) | : N/A |

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

TRITON X-100 (9002-93-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral) H302
Eye Dam. 1 H318

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

Xn; R22
Xi; R41

Full text of R-phrases: see section 16

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15.2.2. National regulations

No additional information available

15.3. US State regulations

No additional information available

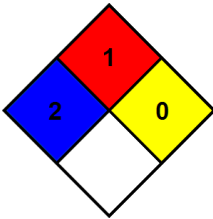
SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

| | |
|---------------------|--|
| Acute Tox. 4 (Oral) | Acute toxicity (oral) Category 4 |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| H302 | Harmful if swallowed |
| H318 | Causes serious eye damage |

- NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
- NFPA fire hazard : 1 - Must be preheated before ignition can occur.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



SDS US (GHS HazCom 2012)

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