

Product: Bellows Actuator

Applicable Product EB401-X  
Numbers:

Date: 1/6/2023

Revision: Orig

Document Number: EHS-SDS-3000

## SAFETY DATA SHEET

### Bellows Actuator

#### SECTION 1 - IDENTIFICATION

<b>Product Identifier/Name:</b>	Bellows Actuator, EB401-X
<b>Other Means of Identification:</b>	N/A
<b>Manufacturer Name:</b>	EaglePicher Technologies, 14212 N. Bethel Rd., Seneca, MO 64865
<b>Telephone for information:</b>	1-417-623-8000
<b>Emergency Telephone:</b>	CHEMTREC: 1-800-424-9300
<b>Recommended use:</b>	Only those specified by the manufacturer
<b>Recommend Restrictions:</b>	Use per manufacturer's recommendations

#### SECTION 2 - HAZARD IDENTIFICATION

Energetic material in the Bellows Actuator is sealed as a condition of delivery and cannot be released under normal or foreseeable conditions of handling and use including professional disposal without destroying the assembly. Bellows Actuators are recognized by the US ATF as a special explosive device (SED) and excluded explosive laws in the US. Bellows Actuators successfully completed the UN exclusion tests for pyrotechnic articles and are not regulated as a Class 1 for shipment.

**Label elements:** None

**Signal word:** None

**Hazard statement:** None

**Precautionary Statements:**

P102	Keep out of reach of children.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flame/hot surfaces – no smoking.
P250	Do not subject to grinding/shock/mechanical loads/crush/impact/friction.
P270	Do not eat, drink, or smoke when using this product.
P281	Use personal protective equipment as required.
P301 + P313	If swallowed: Get medical advice/attention.
P402 + P405	Store in a dry place. Store locked up.
P501	Dispose of contents/containers: Send to a licensed thermal destruction facility.
R2	Rick of explosion by shock, friction, fire, or other sources of ignition
S1/S2	Keep locked up. Keep out of reach of children.
S15/S16	Keep away from heat. Keep away from sources of ignition – No Smoking.
S33/S34	Take precautionary measures against static discharges. Avoid shock or friction.
S35	This material and its container must be disposed of in a safe way.
S60	This material and its container must be disposed of as hazardous waste.

**Hazards Not Otherwise Classified:** None

**SECTION 3 - COMPOSITION, INFORMATION ON INGREDIENTS**

Chemical Name	C.A.S. No.	Percentage	Pictograms/Hazard Statements
Lead Styphnate	15245-44-0	Trade Secret	 H350, H360, H372, H411
LMNR	51317-24-9	Trade Secret	 H302, H312, H332, H360, H373, H400, H410
Black Powder (charcoal, sulfur, potassium nitrate, graphite)	16291-96-6 7704-34-9 7757-79-1 7782-42-5	Trade Secret	 H228, H315, H335, H401

*The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.*

**SECTION 4 - FIRST AID MEASURES**

General advice First Aid guidance should be followed.

**Inhalation** IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Seek immediate medical advice/attention.

**Eye contact** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical advice/attention.

**Skin contact** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Seek immediate medical advice/attention.

**Ingestion** IF SWALLOWED: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek immediate medical advice/attention.

**Acute Trauma:** IF UNINTENDED ACTIVATION. Bruising, puncture, or laceration injuries may occur. Treat symptomatically. Seek immediate medical advice/attention.

**SECTION 5 - FIRE FIGHTING MEASURES**

<b>Flash Point:</b> Not Applicable	<b>Flammable Limits in Air % by Volume:</b> Not Applicable	<b>Extinguishing Media:</b> Use dry chemical, foam or water spray or media suitable on surrounding material for cooling purposes.	<b>Auto-Ignition:</b> Likely to begin at 626°F (330°C).
<b>Special Fire Fighting Procedures</b>	<ul style="list-style-type: none"> <li>◆ Try to keep fire away from packaging or pyrotechnic articles.</li> <li>◆ Evacuate the area if fire reaches packaging or pyrotechnic articles.</li> <li>◆ <b>Never</b> fight explosive fires!</li> </ul>		
<b>Products of Decomposition</b>	See Section 10 (Stability and Reactivity)		

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

**PRECAUTIONARY MEASURES:** This pyrotechnic article may deploy when exposed to fire, heat, electrical energy, electrostatic energy, shock, or mechanical loads (crush or impact). In the case of severe

damage to the pyrotechnic actuator and release of the pyrotechnic ingredients, remove potential ignition sources

**PROCEDURES TO CONTAIN AND CLEAN UP LEAKS OR SPILLS:** Put on protective equipment (e.g., safety glasses w/ side shields). Actuator - Carefully pick up the actuator and place it in a non-static generating container. Pyrotechnic powder - Saturate pyrotechnic material with water (spray bottle). Wipe contaminated surfaces with a wet cloth and place all contents (powder and cloth) in a sealable, non-static generating container. Seal the container to prevent the pyrotechnic material from drying out. Pyrotechnic material is less sensitive to ignition sources when properly wetted with water.

**NEUTRALIZING AGENTS:** This energetic composition is less sensitive to ignition sources when properly wetted with water.

**WASTE DISPOSAL METHOD:** Do not allow pyrotechnic articles to enter bodies of water, wastewater or soil and dispose in accordance with federal, state, and local regulations.

**OTHER PRECAUTIONS:** Never attempt to disassemble, machine, or otherwise modify the Bellows Actuator.

**ENVIRONMENTAL PRECAUTIONS:** Do not allow the contents of a damaged lanyard starter assembly enter storm drains or other waterways.

## **SECTION 7 - HANDLING AND STORAGE**

**General Precautions:** If the surface of the Bellows Actuator is distorted, dented, or punctured before activation, the product must NOT be installed or deployed. Keep away from ignition sources (e.g., fire, heat, electrical energy, shock, friction, impact).

**Precautions for safe handling:** Do not connect this device to an electrical source improperly. Limit and prevent electrostatic charging or discharge. Consult product installation instructions or request assistance from the supplier. Do not attempt to open or breach this device. Do not misuse or mistreat this device. Do not attempt to make repairs on this device. Consult supplier for return or disposal instructions. Do not attempt to remove or allow damage to the wire leads, if applicable.

**Conditions for safe storage, including any incompatibilities:** Excluded from US explosive laws for licensing and storage. Consult supplier. Safeguard from theft, unauthorized use, or unauthorized removal. This device will store well in a cool, dry location. Keep the device away from materials that may increase storage hazards. Protect the device and packaging from fire, heat, electrical energy, shock, friction, or impact.

## **SECTION 8 - EXPOSURE CONTROLS & PERSONAL PROTECTION**

Exposure Limits / Guidelines		
Chemical Name	OSHA Exposure Limits	ACGIH TLV
Lead Styphnate	0.05 mg/m <sup>3</sup> (*)	0.05 mg/m <sup>3</sup> (*)
Lead Mononitroresorcinate	0.05 mg/m <sup>3</sup> (*)	0.05 mg/m <sup>3</sup> (*)
Black Powder	Not established	Not established

\*0.05 mg/m<sup>3</sup> (Lead and inorganic compounds, as Pb)

**Engineering Controls:**

No specific engineering controls are required to prevent exposure to the bellows actuator.

**General Precautions:** None. Energetic material in the Bellows Actuator is sealed as a condition of delivery and cannot be released under normal or foreseeable conditions of handling and use including professional disposal without destroying the assembly.

**Occupational Exposure Controls:** None. This is a sealed article.

**General Exposure Controls:** Do not eat, drink, smoke when handling, testing, or installing this product.

**Respiratory Protection:** None.

**Protective Gloves:** No special hand protection is required for normal handling.

**Eye/Face Protection:** Safety glasses for activities involving test and installation.

**Other Protective Equipment:** Not required for normal handling.

**Administrative Controls:** Follow proper handling guidelines in this SDS.

**SECTION 9- PHYSICAL AND CHEMICAL PROPERTIES**

BOILING POINT (760 mm Hg)	Not applicable
PHYSICAL STATE	Solid
SOLUBILITY IN WATER (% by weight)	Not applicable
PH	Not applicable
APPEARANCE	Cylindrical metal housing with lead wires
ODOR	No odor
MELTING POINT/FREEZING POINT	Not applicable
FLAMMABILITY	Not applicable
UPPER/LOWER FLAMMABILITY LIMITS	Not applicable
DECOMPOSITION TEMPERATURE	Not applicable
All-fire Current	0.68 +/- 1% microfarad capacitor charged to 38.5 +/- 0.5 vdc (5000 erg Max.)
Operating Range	- 65°F (-53°C) to +160°F (71°C)

**SECTION 10 - STABILITY AND REACTIVITY**

**REACTIVITY:** Keep fire away. Avoid electrical energy and heat sources.

**STABLE OR NOT STABLE:** Stable

**INCOMPATIBILITY (MATERIAL TO AVOID):** Strong acids or strong caustic materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of lead, oxides of carbon, oxides of nitrogen, and trace amounts of other potentially irritating and toxic fumes and gases.

**HAZARDOUS POLYMERIZATION:** Will Not Occur

**CONDITIONS TO AVOID:** Avoid mechanical abuse, electrical sources, overtest conditions, and heating above 160°F (71°C).

**SECTION 11 - TOXICOLOGICAL INFORMATION**

Chemical Name	Carcinogenicity	REACH SVHC
Lead Styphnate	IARC Group 2(b) probable human carcinogen National Toxicology Program (NTP) classifies lead and lead compounds as reasonably anticipated to be human carcinogens.	Listed (Toxic for reproduction, harmful to aquatic life)
Lead Mononitroresorcinate	IARC Group 2(b) probable human carcinogen National Toxicology Program (NTP) classifies lead and lead compounds as reasonably anticipated to be human carcinogens.	Lead and its compounds are included in the REACH Annex XVII restricted substances list.
Black Powder	Not listed	Not listed

To the best of our knowledge, the chemical, physical, and toxicological properties of the energetic composition have not been thoroughly investigated.

**SECTION 12 - ECOLOGICAL INFORMATION**

**General Precautions:** None. Energetic material in the Bellows Actuator is sealed as a condition of delivery and cannot be released under normal or foreseeable conditions of handling and use including professional disposal without destroying the assembly.

When properly used or disposed of the Bellows Actuator does not present an environmental hazard. Do not let internal components enter marine environment. Avoid release to waterways, wastewater, or ground water.

**SECTION 13- DISPOSAL CONSIDERATIONS**

Dispose in accordance with the applicable regulations in country and state. Disposal should be performed by licensed professional disposal firms knowledgeable in Federal, State or Local requirements of hazardous waste treatment and hazardous waste transportation.

**SECTION 14- TRANSPORT INFORMATION**

UN Number: UN0000  
 Proper Shipping Name: Not-regulated-as-Class 1  
 Hazard Class: None

**SECTION 15- REGULATORY INFORMATION**

**Exclusion from explosive law:** US – Excluded. Exclusions in other countries pending.

**CE Registration:** Pending

**UKCA Registration:** Pending

**International Fire Code:** 2018, Table 5604.5.2(3) – Division 1.4, *see note c.*

**NFPA Rating:** N/A due to hermetically sealed “article”. For specific chemical ratings, consult SDS for individual chemical compounds.

**SECTION 16- OTHER INFORMATION**

Rev: Original

Prepared 0/06/2023

**This SDS is intended to provide a summary of our knowledge and guidance regarding the use of this assembly. The information contained here has been compiled from sources considered by EaglePicher Technologies, LLC to be dependable and is accurate to the best of the Company’s knowledge. It is not meant to be an all-inclusive document on worldwide hazard communication regulations. This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment. EaglePicher Technologies, LLC assumes no responsibility for injury to the user or third persons or for any damage to any property resulting from misuse.**