SAFETY DATA SHEET

ASI EV BOND 401

Version 1.0 Revision Date 01/23/2023

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ASI EV BOND 401
Product code : 100000023578

Manufacturer or supplier's details

Company : H.B. Fuller Engineering Adhesives

Address : 9001 W Fey Drive
Frankfort, IL, 60423
Telephone : 1-815-464-5606

Medical Emergency Phone Number (24 Hours): 1-888-853-1758

Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300

Recommended use of the chemical and restrictions on use

Recommended use : Adhesive

Restrictions on use : For industrial use only.

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	paste
Color	off-white
Odor	characteristic

GHS Classification

Flammable liquids : Category 2
Skin irritation : Category 2
Skin sensitization : Category 1
Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements:
H225 Highly flammable liquid and vapor. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H335 May cause respiratory irritation.

Precautionary Statements:
Prevention: P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P261 Avoid breathing mist or vapors. P264 Wash skin thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing must not be allowed out of the workplace. P280 Wear protective gloves/ eye protection/ face protection.
Response: P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P362 Take off contaminated clothing and wash before reuse. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage: P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.
Disposal: P501 Dispose of contents/ container to an approved waste disposal plant.

Potential Health Effects

Carcinogenicity:

IARC	Group 2B: Possibly carcinogenic to humans	
	cumene	98-82-8
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.	
NTP	Reasonably anticipated to be a human carcinogen	
	cumene	98-82-8

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous ingredients

Chemical name	CAS-No.	Concentration [%]
methyl methacrylate	80-62-6	50 - 70
maleic acid	110-16-7	1 - 5
2,6-di-tert-butyl-p-cresol	128-37-0	1 - 5
2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, phosphate	52628-03-2	0.1 - 1
α,α-dimethylbenzyl hydroperoxide	80-15-9	0.1 - 1
cumene	98-82-8	0.1 - 1

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Show this material safety data sheet to the doctor in attendance.

If inhaled	:	Move to fresh air. Keep patient warm and at rest. Consult a physician after significant exposure.
In case of skin contact	:	Wash off immediately with soap and plenty of water. Call a physician if irritation develops or persists.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids. Seek medical advice.
If swallowed	:	If swallowed, call a poison control center or doctor immediately. Do not induce vomiting without medical advice. Drink plenty of water.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2) Sand Foam
Unsuitable extinguishing media	:	Water
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	
Further information	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for fire-fighters	:	Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8. Ensure adequate ventilation.
Environmental precautions	:	Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.
Methods and materials for containment and cleaning up	:	Ventilate the area. Soak up with inert absorbent material. Use neutralizing agents. Shovel or sweep up.

SECTION 7. HANDLING AND STORAGE

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Wear personal protective equipment.
Do not get on skin or clothing.
Keep away from heat and flame.

Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.
Store in original container.

Materials to avoid : Do not store together with oxidizing and self-igniting products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
methyl methacrylate	80-62-6	TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH
		TWA	100 ppm 410 mg/m3	OSHA Z-1
		TWA	100 ppm 410 mg/m3	OSHA P0
		PEL	50 ppm 205 mg/m3	CAL PEL
		STEL	100 ppm 410 mg/m3	CAL PEL
2,6-di-tert-butyl-p-cresol	128-37-0	TWA (Inhalable fraction and vapor)	2 mg/m3	ACGIH
		TWA	10 mg/m3	OSHA P0
		PEL	10 mg/m3	CAL PEL
cumene	98-82-8	TWA	5 ppm	ACGIH
		TWA	50 ppm 245 mg/m3	NIOSH REL
		TWA	50 ppm 245 mg/m3	OSHA Z-1
		TWA	50 ppm 245 mg/m3	OSHA P0
		PEL	50 ppm 245 mg/m3	CAL PEL

Personal protective equipment

Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Filter type	:	Combined particulates and organic vapor type
Hand protection Material	:	Impervious gloves
Eye protection	:	Tightly fitting safety goggles Ensure that eyewash stations and safety showers are close to the workstation location.
Skin and body protection	:	Long sleeved clothing Preventive skin protection
Protective measures	:	Avoid contact with skin.
Hygiene measures	:	Avoid contact with skin, eyes and clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	paste
Color	:	off-white
Odor	:	characteristic
Odor Threshold	:	no data available
pH	:	is not determined
Melting point/freezing point	:	is not determined
Boiling point/boiling range	:	is not determined
Flash point	:	Not applicable 10 °C
Evaporation rate	:	is not determined
Flammability (solid, gas)	:	Not classified as a flammability hazard
Upper explosion limit	:	Upper flammability limit is not determined
Lower explosion limit	:	Lower flammability limit is not determined
Vapor pressure	:	is not determined
Density	:	0.99 g/cm3
Solubility(ies) Water solubility	:	is not determined
Partition coefficient: n-octanol/water	:	no data available

Autoignition temperature	:	is not determined
Viscosity Viscosity, kinematic	:	is not determined

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	:	The product is chemically stable.
Hazardous decomposition products	:	Nitrogen oxides (NOx) Sulfur oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate : > 200 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method

Components:

methyl methacrylate:

Acute inhalation toxicity	:	LC50 Rat: 4632 ppm Exposure time: 4 h Test atmosphere: vapor

maleic acid:

Acute oral toxicity	:	LD50 Oral Rat: 708 mg/kg
Acute dermal toxicity	:	LD50 Dermal Rabbit: 1,560 mg/kg

2,6-di-tert-butyl-p-cresol:

Acute oral toxicity	:	LD50 Oral Rat: 6,000 mg/kg

α,α-dimethylbenzyl hydroperoxide:

Acute oral toxicity	:	LD50 Oral Rat: 382 mg/kg

Acute inhalation toxicity : LC50 Rat: 220 ppm
Exposure time: 4 h
Test atmosphere: vapor

Acute dermal toxicity : LD50 Dermal Rat: 500 mg/kg

cumene:
Acute oral toxicity : LD50 Oral Rat: 1,400 mg/kg

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

STOT-single exposure

No data available

STOT-repeated exposure

No data available

Aspiration toxicity

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:
methyl methacrylate :

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 79 mg/l
Exposure time: 96 h
Test Method: flow-through test

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 69 mg/l Exposure time: 48 h Test Method: static test

maleic acid :

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 5 mg/l Exposure time: 96 h Test Method: static test

2,6-di-tert-butyl-p-cresol :

Toxicity to fish	:	LC50 (Oryzias latipes (Japanese medaka)): 5 mg/l Exposure time: 48 h Test Method: static test
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 0.42 mg/l Exposure time: 72 h Test Type: flow-through test

α,α-dimethylbenzyl hydroperoxide :

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 3.9 mg/l Exposure time: 96 h Test Method: static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 7 mg/l Exposure time: 24 h Test Method: static test

cumene :

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 2.7 mg/l Exposure time: 96 h Test Method: semi-static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.6 mg/l Exposure time: 48 h Test Method: static test
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (microalgae)): 2.6 mg/l Exposure time: 72 h Test Type: flow-through test

Persistence and degradability

No data available

Bioaccumulative potential

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not dispose of together with household waste.
Do not dispose of waste into sewer.
To the best of our knowledge, this product does not meet the definition of hazardous waste under the U.S. EPA Hazardous Waste Regulations 40 CFR 261. Disposal via incineration at an approved facility is recommended, as industry best practice. Consult state, local or provincial authorities for more restrictive requirements.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 1993
Proper shipping name	:	Flammable liquid, n.o.s. (Methyl methacrylate monomer, stabilized)
Class	:	3
Packing group	:	II
Labels	:	Flammable Liquids

IMDG-Code

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (METHYL METHACRYLATE MONOMER, STABILIZED)
Class	:	3
Packing group	:	II
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	:	UN 1993
Proper shipping name	:	Flammable liquids, n.o.s. (METHYL METHACRYLATE MONOMER, STABILIZED)
Class	:	3
Packing group	:	II
Labels	:	FLAMMABLE LIQUID
ERG Code	:	128
Marine pollutant	:	no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
Respiratory or skin sensitization
Skin corrosion or irritation
Specific target organ toxicity (single or repeated exposure)

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

methyl methacrylate	80-62-6
cumene	98-82-8

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

methyl methacrylate	80-62-6
cumene	98-82-8

US State Regulations

California Prop 65 Please contact Supplier for more information.

The ingredients of this product are reported in the following inventories:

TSCA All substances listed as active on the TSCA inventory

DSL All components of this product are on the Canadian DSL

AIIC On the inventory, or in compliance with the inventory

KECI On the inventory, or in compliance with the inventory

Inventories LegendTSCA (USA), DSL (Canada), REACH(Europe), AIIC (Australia), NZIoC (New Zealand), ENCS (Japan), KECI (Korea), PICCS (Philippines), IECSC (China), TWINV (Taiwan)

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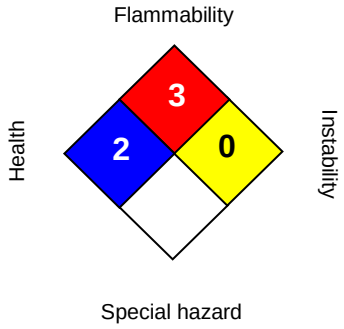
SECTION 16. OTHER INFORMATION

Prepared by: Global Regulatory Office - phone: 1-651-236-5842 - email: msds.request@hbfuller.com

Further information

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

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