



BROMOCO Systems

SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION

PRODUCT NAME: **EPC7460A Protective Coating** DATE PRINTED: 8/2/2016
IDENTIFICATION NUMBER: **PC132**
PRODUCT USE/CLASS: CLEAR PROTECTIVE COATING SUPPLIER: MANUFACTURER:
BROMOCO Systems Ltd.
Unit 11 Chells Enterprise Village
Chells Way
Stevenage
+44 1438 357574
PREPARER: AJS,
PREPARE DATE: 03/02/2016

SECTION 2 - HAZARDS IDENTIFICATION

Classification of substance/mixture

Flammable Liquid, category 4 Acute toxicity (Oral), , category 4
Acute toxicity (Dermal), category 4
Acute toxicity (Inhalation), category 4
Specific target organ toxicity – single exposure, respiratory system,
category 3
Specific target organ toxicity - repeated exposure (Inhalation),
category 2

Specific target organ toxicity - repeated exposure (Inhalation),
category 2

GHS Label elements, including precautionary statements

Pictogram

Signal Word: Warning

GHS HAZARD STATEMENTS

Combustible Liquid
Harmful if swallowed
Harmful in contact with skin
Harmful if inhaled
Causes skin irritation
May cause damage to organs (Kidneys) through prolonged or repeated exposure



Signal Word: Warning

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GHS PRECAUTION PHRASES Precautionary statement:

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Prevention:

Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Wash hands thoroughly after handling.

Response:

In case of fire: Use water spray, carbon dioxide, dry chemical or foam for extinction.
IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/physician if you feel unwell.
Wash contaminated clothing before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Rinse mouth.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Disposal:

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazards not otherwise classified (HNOC) or not covered by GHS - Peroxide former.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

CAS NUMBER	CHEMICAL NAME	WT/WT % RANGE
111109-77-4	Dipropylene glycol dimethyl ether	75-90%
Non-Hazardous 12-07-2	High molecular weight polymer coating 2-butoxy ethyl acetate	25-50% 5-10%
95-14-7 1,2,3-	Benzotriazole	0.1-1.0%
157479-55-5	Modified Polydimethylsiloxane .	< 0.1%

SECTION 4 - FIRST AID MEASURES

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the Recommended protective clothing, (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.



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Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

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Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient

SECTION 5 - FIRE FIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: None known

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide. Forms peroxides of unknown stability

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Refer to section 7, Handling, for additional precautionary measures. Keep personnel out of low areas. Keep unnecessary and unprotected personnel from entering the area. No smoking in area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Avoid release to the environment. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Small spills: Absorb with materials such as: Sand. Vermiculite. Collect in suitable and properly labeled containers. Large spills: Contain spilled material if possible. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.



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SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes. Wash thoroughly after handling.

Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Spills of these organic materials on hot fibrous insulations may lead to lowering of the auto ignition temperatures possibly resulting in spontaneous combustion. Keep away from heat, sparks and flame. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage: Store in the following material(s): Carbon steel. Stainless steel.

Phenolic lined steel drums. Do not store in: Copper. Galvanized iron. Galvanized steel.

Keep away from food, drink and animal feeding stuffs. Keep container tightly closed and in a well-ventilated place. Store away from heat and light. See Section 10 for more specific information.

Storage stability

Steel drums. 24 Month

Storage Period: Bulk 6 Month

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control parameters

Ingredients with Occupational Exposure Limits (US)

Name	%	ACGIH TLV-	ACGIH TLV-	OSHA PEL-	OSHA PEL-	OEL Note
		TWA	STEL	TWA	CEILING	
Dipropylene glycol dimethyl ether	75-90%	20 ppm	N/E	N/E	N/E	
polymer coating	25-50%	N/E	N/E	N/E	N/E	
2-butoxy ethyl acetate	5-10%	20 ppm	N/E	N/E	N/E	
1,2,3-Benzotriazole	0.1-1.0%	N/E	N/E	N/E	N/E	
Modified Polydimethylsiloxane	<0.1%	N/E	N/E	N/E	N/E	

FURTHER INFORMATION: Refer to the local country/regional regulatory exposure limits for the workforce.

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene.

Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl").
NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed;



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however, if discomfort is experienced, use an approved air-purifying respirator.
The following should be effective types of air-purifying respirators: Organic vapour cartridge

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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

APPEARANCE	: Colourless
PHYSICAL STATE	: LIQUID
BOILING RANGE	: 347-685°F (175-363°C)
VAPOR DENSITY	: Is heavier than air
ODOR	: Mild
ODOR THRESHOLD	: N.E.
EVAPORATION RATE	: Is slower than Butyl Acetate
SOLUBILITY IN H ₂ O	: Not soluble.
FREEZE POINT	: -49- -96°F (-45- -71°C)
SPECIFIC GRAVITY	: 0.9347
VAPOR PRESSURE	: <1.0 mm Hg @ 68°F (20°C)
pH	: N.E.
VOLATILE BY VOLUME	: 87.43%
FLASH POINT	: 145°F (63C)
(SETAFLASH CLOSED CUP)	
AUTOIGNITION TEMPERATURE	: 329°F (165°C)
LOWER EXPLOSIVE LIMIT	: N.E.
UPPER EXPLOSIVE LIMIT	: N.E.
VOC Content (g/l)	: 788 g/l.

(See Section 16 for abbreviation legend)

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: No reactivity hazards known under normal storage and use conditions.

Chemical stability: Stable under normal conditions

Possibility of hazardous reactions: Hazardous polymerization does not occur. Forms peroxides of unknown stability

Conditions to avoid: Heat, flames and sparks. Product can oxidize at elevated temperatures.
Generation of gas during decomposition can cause pressure in closed systems.

Incompatible materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Ketones. Organic acids, carbon dioxide (CO₂), carbon monoxide (CO), and irritating fumes and gases.

SECTION 11 - TOXICOLOGICAL PROPERTIES

Information on toxicological effects

Acute Toxicity, product:

Oral LD50	: N/D
Inhalation LC50	: N/D.
Irritation	: Unknown
Corrosivity	: Unknown
Sensitization	: Unknown
Repeated dose toxicity	: Unknown
Carcinogenicity	: Unknown
Mutagenicity	: Unknown
Toxicity for reproduction	: Unknown



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If no information is available above under Acute Toxicity, then the acute effects of this product have not been tested. Data on individual components are tabulated below:

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<u>CAS NUMBER</u>	<u>CHEMICAL NAME</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
111109-77-4	Dipropylene glycol dimethyl ether	3,300 mg/kg rat	> 2,000 mg/kg rat	>5.25 mg/l 4h rat – no deaths
12-07-2	2-butoxy ethyl acetate	1,800 mg/kg rat	1,500 mg/kg rabbit	ND
95-14-7 1,2,	3-Benzotriazole	560 mg/kg rat	no irritation rat	1.4 mg/l 4h rat
157479-55-5	Polydimethylsiloxane	8,000 mg/kg rat	No irritation rabbit	ND

Skin corrosion/irritation

Prolonged exposure not likely to cause significant skin irritation.

Serious eye damage/eye irritation

May cause slight eye irritation.

Corneal injury is unlikely.

Sensitization

Skin contact may cause an allergic skin reaction in a small proportion of individuals.

For respiratory sensitization:

No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

In animals, effects have been reported on the following organs:

Adrenal gland.

Kidney.

Liver.

Carcinogenicity

No relevant data found.

Teratogenicity

Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

Reproductive toxicity

In animal studies, did not interfere with reproduction.

Mutagenicity

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

Other adverse effects:

Can cause kidney damage

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

Toxicity

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).



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LC50, *Poecilia reticulata* (guppy), static test, 96 Hour, > 1,000 mg/l

NOEC sublethal, *Oncorhynchus mykiss* (rainbow trout), flow-through test, 14 Hour, > 300 mg/l

Acute toxicity to aquatic invertebrates

LC50, *Daphnia magna* (Water flea), static test, 24 Hour, > 1,000 mg/l

Chronic aquatic toxicity

Chronic toxicity to aquatic invertebrates

NOEC, *Daphnia magna* (Water flea), semi-static test, 21 d, number of offspring, 10 mg/l

LOEC, *Daphnia magna* (Water flea), semi-static test, 21 d, number of offspring, 32 mg/l

MATC (Maximum Acceptable Toxicant Level), *Daphnia magna* (Water flea), semi-static test, 21 d, number of offspring, 18 mg/l

Toxicity to soil-dwelling organisms

LC50, *Eisenia fetida* (earthworms), 14 d, survival, > 1,000 mg/kg

Persistence and degradability

Biodegradability: Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability). Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

Biodegradation: 18 - 32 %

Exposure time: 28 d

Method: OECD Test Guideline 301B or Equivalent

10-day Window: Not applicable

Biodegradation: 25 %

Exposure time: 28 d

Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 2.17 mg/mg

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 3.8 Hour

Method: Estimated.

Bio accumulative potential

Bioaccumulation: Bio concentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 0.42 Measured

Bio concentration factor (BCF): 4 *Oncorhynchus mykiss* (rainbow trout) 43 d Measured

Mobility in soil

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient(Koc): 2 Estimated.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE



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INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

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SECTION 14 - TRANSPORTATION INFORMATION

DOT (US)

Proper shipping name Paint, UN number	Non-Regulated NA
Class	NA
Packing group	NA

Classification for SEA transport (IMO-IMDG):

Not regulated for transport
Consult IMO regulations before transporting ocean bulk

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

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15 - REGULATORY INFORMATION

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (acute) health hazard
Delayed (chronic) health hazard
Fire Hazard
Reactive hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material contains the following list chemical component(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Glycol Ethers
CAS# 12-07-2 2-butoxy ethyl acetate 5-10%

Pennsylvania Worker and Community Right-To-Know Act:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.



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SECTION 16 - OTHER INFORMATION

Hazard Rating System NFPA

RATINGS - HEALTH: 2 FLAMMABILITY: 2 REACTIVITY: 1

Revision

Identification Number: PC132 SDS Issue Date: 02/03/2016 / Version: 1.0
Reasons for revision: To meet GHS Previous SDS revision date: 02/09/2015

LEGEND: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references and from external references supplied by our vendors to company.

BROMOCO Systems Ltd. urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer specific SDSs, we are not and cannot be responsible for SDSs obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.