

SAFETY DATA SHEET

ABZOL® PS Cleaner

Preparation Date : 14-May-2015

Revision Date: 23-Dec-2015

Revision Number: 2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name ABZOL® PS Cleaner

Other means of identification

CAS-No 106-94-5

Recommended use of the chemical and restrictions on use

General function Cleaners containing n-propyl bromide are for use in confined systems or into applications where human exposure is controlled.

Uses advised against No information available

Details of the supplier of the safety data sheet

Company Albemarle Corporation
451 Florida Street
Baton Rouge, LA 70801

For Non-Emergency 800-535-3030

'Competent Body for SDS' HSE@Albemarle.com

Emergency telephone number

Emergency Telephone Numbers +1-225-344-7147

2. HAZARDS IDENTIFICATION

Classification

Skin Corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Reproductive toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 3 - (H335,H336)
Specific target organ toxicity (repeated exposure)	Category 2
Chronic aquatic toxicity	Category 3


Label elements

Emergency Overview

Danger

Hazard Statements

Causes skin irritation
Causes serious eye irritation
May damage fertility or the unborn child
May cause respiratory irritation. May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
Harmful to aquatic life with long lasting effects



Physical state Liquid

Color Clear.

Odor Characteristic.

Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling
 Wear eye/face protection
 Do not breathe dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Avoid release to the environment

Response

IF exposed or concerned: Get medical advice/attention
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN: Wash with plenty of soap and water
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 IF SWALLOWED: Rinse mouth Drink plenty of water

Storage

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

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

- May be harmful if swallowed

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
1-bromopropane; n-propyl bromide	106-94-5	>98

Note: The exact concentrations of the above listed chemicals are being withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

Eye contact

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact	After contact with skin, wash immediately with plenty of water. Remove contaminated clothing and shoes. Seek medical advice.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration, preferably mouth to mouth. Seek medical advice.
Ingestion	Rinse mouth with water. Give 500 ml water to drink. Do not induce vomiting. Seek medical advice.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media Carbon dioxide, dry chemicals, foam, water spray (mist).

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical

Combustion/explosion hazards No information available.

Hazardous Combustion Products High temperatures may liberate toxic or corrosive gases. Do not breathe smoke or vapours.

Explosion Data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Wear suitable gloves and eye/face protection.

Environmental Precautions

Environmental precautions Prevent product from entering drains. Contain any spill with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning up Take up small spills with dry chemical absorbent. Large spills may be taken up with pump or vacuum and finished off with dry chemical absorbent. May require excavation of contaminated soil.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities

Storage Keep in a dry, cool and well-ventilated place. Mechanical ventilation is recommended.

Incompatible Materials None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Component	CAS-No	ACGIH TLV (TWA)	OSHA PEL (TWA)	NIOSH IDLH
1-bromopropane; n-propyl bromide	106-94-5	TWA: 0.1 ppm	-	-

Appropriate engineering controls

Engineering Controls

Showers.
Eyewash stations.
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face Protection

Chemical goggles or face shield with safety glasses.

Skin Protection

If skin contact or contamination of clothing is likely, protective clothing should be worn.

Hand protection

Gloves resistant to chemical permeation.

Respiratory protection

Full facepiece, NIOSH approved organic vapor respirator.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Color	Clear.
Odor	Characteristic.
Odor Threshold	No information available
Molecular Weight	123
pH	Not available
Melting point/freezing point	-110 °C / -166 °F
Boiling Point/Range	> 70 °C / 158 °F (760 mmHg)
Flash Point	None (Closed cup)
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	8 vol%
Lower flammability limit:	4 vol%
Vapor Pressure	139 mm Hg (25°C)
Vapor Density	4.24
Relative density	1.35
Solubility(ies)	
Water Solubility	Slight (0.25 g/100ml)
Solubility in other solvents	No information available
Partition coefficient :	2.03
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Dynamic viscosity	No information available
Explosive Properties	No information available
Oxidizing Properties	No information available

10. STABILITY AND REACTIVITY

Reactivity Hazard No data available.

Stability Stable under normal conditions.

Hazardous Reactions No hazardous reaction expected under normal handling.

Hazardous Polymerization None under normal processing.

Conditions to Avoid Vapors can be ignitable within a narrow concentration range of 3% to 9% by volume in air.

Materials to avoid Avoid strong alkalis, oxidizers and reactive metals (i.e. potassium, sodium). Prolonged contact with free water may result in corrosion and diminished stabilizer levels.

Hazardous decomposition products Nitrogen oxides (NOx), Carbon oxides, Bromine, Hydrogen bromide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Irritating to respiratory system.

Eye contact Irritating to eyes.

Skin Contact Irritating to skin.

Ingestion Not expected to be acutely toxic.

Potential Health Effects

Acute Effects

Skin Corrosion/irritation Irritating to skin.

Serious eye damage/eye irritation Irritating to eyes.

Respiratory irritation : Irritating to respiratory system

Sensitization Not expected to be a sensitizer.

STOT - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

Chronic Effects

Mutagenic Effects In vivo mutagenicity tests: negative.

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	ACGIH Carcinogens	IARC	NTP	OSHA Carcinogens
1-bromopropane; n-propyl bromide	106-94-5	A3	-	Reasonably Anticipated	X

Reproductive Effects May impair fertility. May cause harm to the unborn child.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Chronic Effects Longterm overexposure may cause adverse effects in the liver, respiratory system, kidney, reproductive system, and central nervous system.

Target Organ Effects Central nervous system (CNS), Liver, Respiratory system, Kidney, Reproductive System.

Aspiration hazard No information available.

Numerical measures of toxicity

Product Information No information available.

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 3607 mg/kg
LD50 Oral: Rat Oral LD50: > 2000 mg/kg
LD50 Dermal: Rat Dermal LD50: > 2000 mg/kg
Inhalation LC50: LC50/inhalation/4h/rat : 35 mg/L

Component Information No information available.

Component	Rat Oral LD50:	Rabbit Dermal LD50:	Rat Dermal LD50 :	Rat Inhalation LC50:
1-bromopropane; n-propyl bromide 106-94-5	> 2000 mg/kg bw	-	> 2000 mg/kg bw	= 253 g/m ³ (Rat) 30 min

Other data May cause Central Nervous System (CNS) depression at high doses; this may cause dizziness, loss of balance, slurred speech and unconsciousness. Toxic effects on the liver and lung may be exerted at doses causing anesthesia.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

Component	Freshwater Algae EC50/72h :	Freshwater Fish LC50/96h :	Water Flea EC50/48h :
1-bromopropane; n-propyl bromide (CAS #: 106-94-5)	72.3 mg/l	24.3 mg/L	99.3 mg/l

Persistence/Degradability No information available.

Bioaccumulation/ Accumulation No information available.

Mobility in Environmental Media No information available.

Component	Partition coefficient :
1-bromopropane; n-propyl bromide 106-94-5	2.1

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method Dispose in a safe manner in accordance with local/national regulations.

Contaminated Packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name NOT REGULATED FOR TRANSPORTATION
Hazard Class Not regulated
UN No. Not regulated
Packing Group Not regulated
Description Not regulated

IMDG/IMO

IMO Class Not regulated
Packing Group Not regulated
UN-No Not regulated
IMO Labelling and Marking Not regulated
Proper Shipping Name Not regulated
EmS Not regulated
Marpol - Annex II Not regulated
Marpol - Annex III Not regulated
Transport Description Not regulated

IATA/ICAO

IATA/ICAO Class Not regulated
Packing Group Not regulated
UN-No Not regulated
IATA/ICAO Labelling/Marking Not regulated
Passenger Aircraft Not regulated
Cargo aircraft only Not regulated
Proper shipping name Not regulated
Transport Description Not regulated

15. REGULATORY INFORMATION											
International Inventories	TSCA	DSL	NDSL	AICS	EINECS	ENCS	KECL	PICCS	IECSC	NZIoC	TCSI
ABZOL® PS Cleaner	X	X	-	X	X	X	X	X	X	X	X

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Component	Weight %	SARA 313 - De minimis
1-bromopropane; n-propyl bromide (CAS #: 106-94-5)	>98	0.1

SARA 311/312 Hazardous Categorization

Acute Health Hazard Yes
Chronic Health Hazard Yes
Fire Hazard No
Sudden Release of Pressure Hazard No
Reactive Hazard No

Reportable and Threshold Planning Quantities

The following components have RQs and/or TPQs under SARA and/or CERCLA

State Right-to-Know

This product contains the following chemicals regulated in the states listed below.

Component	California Prop. 65	New Jersey	Massachusetts	Pennsylvania
1-bromopropane; n-propyl bromide (CAS #: 106-94-5)	Developmental Female Reproductive Male Reproductive	X	X	X

16. OTHER INFORMATION

NFPA	Health 2	Flammability 1	Instability 0	Physical Hazards -
HMIS	Health 2	Flammability 1	Physical Hazards 0	

Prepared By Health & Environment Department Albemarle Corporation

FOR ADDITIONAL NONEMERGENCY PRODUCT INFORMATION, CONTACT:

HEALTH AND ENVIRONMENT DEPARTMENT
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 BATON ROUGE, LA. 70801
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Disclaimer:

The information contained herein is accurate to the best of our knowledge. The Company makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances.

End of Safety Data Sheet