

Cublen B 45-US

Safety Data Sheet

according to 29 CFR 1910.1200/ HazCom 2012 (GHS-US)

Date of Issue: 12/22/2014 Revision Date: 5/5/2020 Version: 2.0



ZSCHIMMER & SCHWARZ

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

1.1 Product Identifier

Product name: Cublen B 45-US
Synonyms: BHMTMPMA; Bis[hexamethylene triamine penta(methylene phosphonic acid)]
CAS No.: 34690-00-1

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

Use of the substance/mixture: Formulation additive
Uses advised against: None known

1.3 Details of the supplier of the safety data sheet

Zschimmer and Schwarz, Inc.
70 GA Hwy. 22 W
Milledgeville, GA 31061
Phone: (478) 454-1942
Fax: (478) 453-8854

1.4 Emergency telephone number

Emergency number: CHEMTREC: (800) 424-9300

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition: Mixture

Classification according to 29 CFR 1910.1200/ HazCom 2012 (GHS-US)

Serious eye damage/Irritation, Category 1 H318: Causes serious eye damage
Skin corrosion/irritation, Category 2 H315: Causes skin irritation
Corrosive to metals, Category 1 H290: May be corrosive to metals

2.2 Label Elements

Labeling according to 29 CFR 1910.1200/ HazCom 2012 (GHS-US)

Hazard pictograms:



Signal Word:

DANGER!

Hazard statements:

H318: Causes serious eye damage
H315: Causes skin irritation
H290: May be corrosive to metals

Precautionary statements:

P234: Keep only in original container.
P264: Wash thoroughly after handling.
P280: Wear protective gloves/eye protection/face protection.
P305+351+338: 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/doctor.
P302+352: IF ON SKIN: Wash with plenty of soap and water.
P332+313: If skin irritation occurs: Get medical advice/attention.



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P362+364: Take off contaminated clothing and wash it before reuse.
P390: Absorb spillage to prevent material damage.
P406: Store in a corrosive resistant container with a resistant inner liner.

Section 3 – Composition/information on ingredients

3.1 Substance

Not applicable, product is a mixture.

3.2 Mixture

Chemical nature: Aqueous solution of an aminophosphonic acid

Hazardous components

Chemical Name	CAS No.	Concentration
Bis[hexamethylene triamine penta(methylene phosphonic acid)]	34690-00-1	> 45%
Phosphorous acid	13598-36-2	< 5%
Hydrochloric acid	7647-01-0	< 5%

This is not intended to be a complete compositional disclosure. See Section 8 for Exposure Limits, if any.

Section 4 - First aid measures

4.1 Description of first aid measures

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult or irritation develops and persists, get medical attention.

Skin Contact: Rinse with copious amounts of water. Remove contaminated clothing and shoes. If a rash or skin irritation occurs, get medical attention.

Eye Contact: Flush with copious amounts of water for at least 15 minutes, lifting eyelids for maximum effectiveness. Get immediate medical attention.

Ingestion: If swallowed, rinse mouth with water. Do NOT induce vomiting. Consult a physician/poison control center immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Inhalation: May cause irritation of the respiratory tract.

Skin: Causes skin irritation.

Eyes: Causes serious eye damage.

Ingestion: May cause burns to the mouth, esophagus, and stomach. May cause gastrointestinal distress.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

Section 5 - Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Water spray, dry chemical, alcohol foam, or carbon dioxide.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Non-flammable or combustible. Closed containers may explode due to the buildup of pressure when exposed to extreme heat. Under fire conditions, product may undergo thermal decomposition and emit toxic fumes of CO_x, PO_x, and NO_x.

5.3 Advice for firefighters



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Full protective equipment including self-contained breathing apparatus and protective clothing should be used. Water may be used to cool containers to prevent pressure buildup and possible rupture when exposed to extreme heat. If possible, water contaminated by this material should be contained and prevented from being discharged to any waterway, sewer, or drain to avoid environmental contamination.

Section 6 - Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. Avoid breathing mists of product. Wear protective gloves, eye protection, and face protection. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas.

6.2 Environmental precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers, and waterways.

6.3 Methods and materials for containment and cleaning up

Cover drains and contain spill. Use neutralizing agent and take up with inert absorbent material (e.g. vermiculite, general purpose binder). Shovel or sweep up product and place into an approved container for proper disposal. Dispose of absorbed material in accordance with local, state and federal regulations.

6.4 Reference to other sections

See section 13 for any additional waste treatment or disposal information.

Section 7 - Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Wear protective gloves, eye protection, and face protection. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Wash contaminated clothing and shoes before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, and well-ventilated area away from incompatible materials (see Section 10.5). Do not store in light metal containers. Store in a corrosive resistant container with a resistant inner liner. Keep container tightly closed. Protect containers from physical damage. Containers may be hazardous when empty as they contain product residues.

7.3 Specific end uses

Apart from uses mentioned in Section 1.2, no other uses are specified.

Section 8 - Exposure controls/personal protection

8.1 Control parameters

Component (CAS No.)	Basis	Type	Value	Remarks
Hydrochloric acid (7647-01-0)	ACGIH	TLV	2 ppm	-
	OSHA	TWA	5 ppm	

8.2 Exposure Controls

Engineering Measures:

Safety measures and appropriate working conditions should be given priority, with use of personal protective equipment a secondary measure. Use adequate ventilation to reduce the exposure of mists or vapors. Facility should be equipped with an eyewash station and safety shower.

Hygiene Measures:

Avoid contact with eyes or skin. Wash hands thoroughly after use and before eating, drinking or bathroom use.

Personal Protective Equipment (PPE):

Hand Protection:

Wear gloves recommended by glove supplier as impervious to materials in Section 3.

Eye Protection:

Wear protective goggles or safety glasses with side shields and/or full face shield.

Skin Protection:

Wear protective clothing.



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Respiratory Protection:

If ventilation is limited or use may generate aerosols or mists, use full-face respirator with multi-purpose cartridges.

Section 9 - Physical and chemical properties

9.1 Information of basic physical and chemical properties

Form and Appearance:	Dark amber to brown liquid	Odor:	Characteristic
pH:	< 2.0 @ 1%	Odor Threshold:	N/D
Boiling Point:	> 212°F (100°C)	Melting/Freezing point:	~ 16°F (-9°C)
Vapor Pressure:	N/D	Vapor Density (Air=1):	N/A
Flash Point:	N/A	Evaporation Rate:	< 0.01
UEL:	N/A	LEL:	N/A
Viscosity:	~ 16 cps @ 25°C	Solubility in Water:	Fully miscible
Octanol/Water Partition Coefficient:	N/D	Specific Gravity/Bulk Density:	~1.23 @ 25°C
Auto-ignition temperature:	N/D	Decomposition Temperature:	N/D
Volatile content:	N/D	VOC Data:	N/D

9.2 Other information

No data available.

Section 10 - Stability and reactivity

10.1 Reactivity

Exothermic reaction occurs when mixed with oxidizers, bases, and alkaline materials. Contact with light metals may produce flammable hydrogen gas.

10.2 Chemical stability

Product is stable under ordinary conditions of use and storage.

10.3 Possibility of hazardous reactions

Will not occur under ordinary conditions of use and storage.

10.4 Conditions to avoid

Extreme temperatures, contact with incompatible materials.

10.5 Incompatible materials

Strong bases, strong oxidizers, strong alkaline materials, light metals.

10.6 Hazardous decomposition products

Thermal decomposition may produce toxic fumes of phosphine, CO_x, NO_x, and PO_x.

Section 11 - Toxicological information

11.1 Information on toxicological effects

Acute Oral Toxicity

LD50, rat: > 2,000 mg/kg

Acute Inhalation Toxicity

No data available



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Acute Dermal Toxicity

LD50, rat: > 2,000 mg/kg

Skin Irritation/Corrosion

Irritating.

Eye Irritation/Corrosion

Severely irritating. Irreversible eye damage possible.

Sensitization

No effects known

Genotoxicity in Vitro

No data available

Mutagenicity

No data available

Specific Target Organ Toxicity – Single Exposure

No data available

Specific Target Organ Toxicity – Repeated Exposure

No data available

Aspiration Hazard

No effects known

11.2 Further Information

This material is not listed as a carcinogen by IARC, ACGIH, NTP, or OSHA. No data is available regarding the mutagenicity or teratogenicity of this material in humans, nor is there available data that indicates that it causes adverse development or fertility effects in humans. Handle in accordance with good industrial hygiene and safety practice.

Section 12 - Ecological information

12.1 Toxicity

Acute and Chronic Aquatic Toxicity: LC50 (96h) – *Oncorhynchus mykiss* : > 100 mg/l EC50 (48h) – *Daphnia magna*: > 110 mg/l

12.2 Persistence and Degradability

Not readily biodegradable.

12.3 Bioaccumulation Potential

Not expected to bioaccumulate.

12.4 Mobility in Soil

No data available

12.5 Results of PBT and vPvB Assessment

Not PBT/vPvB

12.6 Other Adverse Effects

Do not allow material to run into surface waters, wastewater, or soil.

Section 13 - Disposal considerations



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13.1 Waste treatment methods

- Methods of disposal:** Discarded product, as sold, would be considered a RCRA Characteristic Hazardous Waste as it meets the definition /characteristic of corrosivity (designated as D002). Local, state, provincial and national disposal regulations may be more or less stringent. Contact a licensed professional waste disposal service to dispose of this material.
- Hazardous waste:** This material, as sold, is considered a hazardous waste under RCRA 40 CFR 261.

Section 14 - Transport regulations

Land Transport (DOT, ADR/RID)

- | | |
|--|--|
| 14.1 UN number | 3265 |
| 14.2 Dangerous Good description | Corrosive liquid, acidic, organic, n.o.s. (aminophosphonic acid) |
| 14.3 Transport hazard class | 8 |
| 14.4 Packing group | |
| Packing group | III |
| Classification code | - |
| Hazard Identification number | 80 |
| Label(s) | 8 (Corrosive) |
| Tunnel restriction code | (E) |
| 14.5 Environmental hazards | None |
| 14.6 Special precautions for user | None |

Air Transport (IATA/ICAO)

- | | |
|--|--|
| 14.1 UN number | 3265 |
| 14.2 Dangerous Good description | Corrosive liquid, acidic, organic, n.o.s. (aminophosphonic acid) |
| 14.3 Transport hazard class | 8 |
| 14.4 Packing group | |
| Packing group | III |
| Label(s) | 8 (Corrosive) |
| Packing instruction | |
| 14.5 Environmental hazards | None |
| 14.6 Special precautions for user | None |

Marine Transport (IMDG)

- | | |
|--|--|
| 14.1 UN number | 3265 |
| 14.2 Dangerous Good description | Corrosive liquid, acidic, organic, n.o.s. (aminophosphonic acid) |
| 14.3 Transport hazard class | 8 |
| 14.4 Packing group | |
| Packing group | III |
| Label(s) | 8 (Corrosive) |
| EmS | F-A, S-B |
| 14.5 Environmental hazards | None |
| 14.6 Special precautions for user | None |
| 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | IBC02 |



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Section 15 - Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal Regulations

SARA 311/312 Hazards	Acute Health Hazard
SARA 302/304 (TPQ/RQ)	No components listed
SARA 313	No components listed
CERCLA (RQ)	Hydrochloric acid (7647-01-0) – 5000 lbs
CAA 112(b) HAPS	No components listed

U.S. State Regulations

California Prop. 65	No components listed
State RTK/HSL Information	Hydrochloric acid (7647-01-0)

International Regulations

No additional information available

Chemical Inventory Listing

United States (TSCA)	Complies with inventory
European Union (EINECS/ELINCS/NLP)	Complies with inventory
Australia (AICS)	Does not comply with inventory
Philippines (PICCS)	Does not comply with inventory
Canada (DSL/NDSL)	Complies with inventory - DSL
Korea (KECL)	Does not comply with inventory
Japan (ENCS/ISHL)	Complies with inventory
China (IECSC)	Complies with inventory
New Zealand (NZIoC)	Complies with inventory

Section 16 – Additional information

Date of latest revision: 5/5/2020

Key to Abbreviations:

N/D - Not determined N/A - Not applicable N/E - Not established

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