

**PCS<sup>2</sup> Inc.**  
**SAFETY DATA SHEET**

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**

**1.1 Product Identifier**

Product name: **PCS<sup>2</sup> BT34**  
Synonym: Boiler Treatment Mixture

**1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST**

Identified uses: Processing Aid for Industrial Applications.  
Uses advised against: For Industrial Applications Only!

**1.3 COMPANY IDENTIFICATION**

Company: PCS<sup>2</sup> Inc.  
PO Box 1073  
Canonsburg, PA 15317  
Telephone: (412) 889-3571  
Fax: (724) 941-5030

**1.4 EMERGENCY Telephone NUMBER**

24-hour emergency number: Chemtrec (800) 424-9300 CCN# 634803

**SECTION 2: HAZARD IDENTIFICATION**

**2.1 GHS Classification of the substance or mixture**

Combustible liquid	Category 4
Skin corrosion/irritation	Category 1C
Serious eye damage/ eye irritation	Category 2
Acute toxicity, inhalation	Category 4
Acute toxicity, oral	Category 4
Reproductive toxicity	Category 2

Labeling according to paragraph (f) of Regulation 29 CFR 1910.1200

Hazard symbol(s):



Signal word:

Danger.

Hazard statement(s):

H227	Combustible liquid.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H361	Suspected of damaging fertility or the unborn child.

## **2.3 Precautionary Statements**

### Response:

P301+P330+P331  
P302+P352+P362+P364

P304+P340  
P305+P351+P338

P308+P313  
P391

### Prevention:

P203  
P233  
P261  
P264  
P270  
P273  
P280

### Storage:

P403+P233  
P405

### Disposal:

P501

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash before reuse.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If exposed or concerned: Get medical advice/ attention.  
Collect spillage.

Obtain, read, and follow all safety instructions before use.  
Keep container tightly closed.  
Avoid breathing mists, vapors, or spray.  
Wash thoroughly after handling.  
Do not eat, drink, or smoke when using this product  
Avoid release to the environment.  
Wear protective gloves and clothing, with appropriate eye and face protection.

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

Dispose of contents/container in accordance with all local, state, and federal requirements.

## **2.4 Other hazards**

None.

## **SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS**

### **3.1 Substances**

Not Applicable. This product is not a substance.

### **3.2 Mixtures**

<i>Hazardous Components</i>	<i>CAS Number</i>	<i>Weight %</i>
Water	7732-18-5	60 - 100
Diethylaminoethanol	100-37-8	7 – 13
Morpholine	110-91-8	3 – 7
Cyclohexylamine	108-91-8	3 - 7

## **SECTION 4: FIRST AID MEASURES**

### **4.1 Description of first aid measures**

#### Inhalation:

Move to fresh air. Seek medical attention if symptoms appear.

#### Skin Contact:

Wash immediately with soap and copious amounts of water while removing all contaminated clothes and shoes. In case of persistent skin irritation, consult a physician.

Eye contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If irritation persists, get prompt medical attention. Remove contact lenses if needed.

Ingestion:

Rinse mouth with water. DO NOT induce vomiting. Get medical attention immediately if symptoms occur. Drink four 8 oz. glasses of water as soon as possible after ingestion.

**4.2 Most important symptoms and effects, both acute and delayed**

None.

**4.3 Indication of any immediate medical attention and special treatment needed**

None reasonably foreseeable. Treat any symptomatically if any occur.

**4.4 Other Information**

None.

## SECTION 5: FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

Suitable extinguishing media:

Use water spray, foam, carbon dioxide, dry powder.

Unsuitable extinguisher media:

High flow water jet.

**5.2 Special hazards arising from the substance or mixture**

Hazardous decomposition products:

Thermal decomposition may produce: Carbon Oxides (CO<sub>x</sub>), Nitrogen Oxides (NO<sub>x</sub>), and Ammonia.

**5.3 Advice for fire fighters**

Protective measures:

Wear self-contained breathing apparatus and protective suit.

**5.4 Other information**

Spills can produce irritating/ noxious odors of ammonia/amines. Wear self-contained respiratory and eye protection for fire-fighting or spill response.

## SECTION 6: ACCIDENTAL RELEASE MEASURE

**6.1 Personal precautions, protective equipment, and emergency procedures**

Personal precautions:

Do not touch or walk through spilled material. Spills can produce irritating/ noxious odors of ammonia/amines. Wear self-contained respiratory and eye protection for fire-fighting or spill response.

Protective equipment:

Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

Emergency procedures:

Use suitable absorbent material to soak up spill. Sweep up spills put in suitable container for disposal. Keep people away from spill/leak.

**6.2 Environmental precautions**

As with all chemical products, do not flush into surface water. US regulations require reporting spills of this material that could reach any surface waters. The toll-free phone number for the US Coast Guard National Response Center is 1-800-424-8802.

### **6.3 Methods and material for containment and cleaning up**

#### Small spills:

Do not flush with water. Use suitable absorbent material to soak up spill. Sweep up and shovel into suitable container for disposal.

#### Large spills:

Do not flush with water. Use suitable absorbent material to soak up spill and create dam. Sweep up and shovel into suitable container for disposal.

#### Residues:

Soak up with inert absorbent material. After cleaning, use water to remove any traces, collect water for reuse or disposal.

### **6.4 Reference to other sections**

Section 7: Handling and storage; Section 8: Exposure controls/personal protection; Section 9: Physical and chemical properties; Section 13: Disposal considerations.

## **SECTION 7: HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

Avoid contact with skin and eyes. When using, do not eat, drink or smoke. Product can emit irritating/noxious odors of ammonia/amines. Wear appropriate PPE (air-purifying or self-contained respirator in areas of insufficient ventilation, safety goggles, face shield and chemical apron) when using product.

### **7.2 Conditions for safe storage, including any incompatibilities**

Keep in a dry place away from heat and sources of ignition. Freezing may affect the physical condition of material. Incompatible with oxidizers and strong acids.

### **7.3 Specific end use(s)**

None.

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1 Control parameters**

#### Occupational exposure limits on material as supplied:

#### Occupational exposure limits of hazardous components:

<u>Components:</u>	<u>CAS Number</u>	<u>OSHA PEL-TWA (ST) STEL (C) Ceiling</u>	<u>NIOSH REL-TWA (ST) STEL (C) Ceiling</u>	<u>ACGIH TLV-TWA (ST) STEL (C) Ceiling</u>
Water	7732-18-5	None Established	None Established	None Established
Diethylaminoethanol	100-37-8	10 ppm	10 ppm 100 ppm (IDLH)	2 ppm
Morpholine	110-91-8	20 ppm	20 ppm 30 ppm (ST) 1400 ppm (IDLH)	20 ppm
Cyclohexylamine	108-91-8	None Established	10 ppm	10 ppm

### **8.2 Exposure controls**

#### Appropriate engineering controls:

Use local exhaust if misting occurs. Natural ventilation is adequate in absence of mist.

#### Personal Protective Equipment (PPE)

#### Eye/Face protection:

Safety glasses with side shields, goggles, or face shield.

#### Skin protection:

Work clothes protecting arms, legs, and body.

Hand protection:

PVC or other plastic material gloves.

Respiratory protection:

In absence of adequate natural ventilation, a respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant the use of a respirator for air-purifying respirator with proper amine or organic cartridges – or self-contained breathing apparatus.

Additional advice:

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls:

Do not allow uncontrolled discharge of product into the environment. Do not flush into surface water.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	Clear – sl. hazy, pale yellow to amber liquid.
Odor	Amine.
Odor Threshold	No data available.
pH	11.5 – 13.5
Melting point/freezing point	< 0 °C.
Initial boiling point and boiling range	> 100 °C.
Flash point	175 °F (Cleveland Open Cup)
Evaporation rate	No data available.
Flammability (solid, gas):	No data available.
Upper/lower flammability or explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	0.95 – 1.05
Solubility(ies)	Completely miscible in water
Partition coefficient	No data available.
Auto ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	Similar to water.
Explosive properties	Not applicable
Oxidizing properties	Not applicable

### 9.2 Other information

None.

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

Stable under recommended storage conditions.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

None Known.

### 10.4 Conditions to avoid

Protect from frost, heat, and sunlight. Keep away from sources of ignition

### **10.5 Incompatible materials**

Oxidizers and strong acids.

### **10.6 Hazardous decomposition products**

Thermal decomposition may produce: Carbon Oxides (CO<sub>x</sub>), Nitrogen Oxides (NO<sub>x</sub>), Ammonia.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

### **11.1 Information on toxicological effects**

*Information on the product as supplied:*

Acute oral toxicity	No data available.
Acute dermal toxicity	No data available.
Acute inhalation toxicity	No data available.
Skin corrosion/irritation	Irritating. May cause allergic skin reaction.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory/skin sensitization	Not expected to experience sensitization.
Mutagenicity	This product is not expected to be mutagenic.
Carcinogenicity	This product is not expected to be carcinogenic.
Reproductive toxicity	Contains cyclohexylamine, may cause fertility and harm to unborn child.
STOT-single exposure	No known effects.
STOT – repeated exposure	No known effects.
Aspiration hazard	No hazards resulting from material as supplied.

## **SECTION 12: ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

*Information on the product as supplied:*

Acute toxicity to fish	No data available.
Acute toxicity to invertebrates	EC <sub>50</sub> /Daphnia magna/48 hours: 500 mg/L.
Acute toxicity to algae	No data available.
Chronic toxicity to fish	No data available.
Chronic toxicity to invertebrates	No data available.
Toxicity to microorganisms	No data available.
Effects on terrestrial organisms	No data available.
Sediment toxicity	No data available.

### **12.2 Persistence and degradability**

Degradation:	No data available.
Hydrolysis:	No data available.
Photolysis:	No data available.

### **12.3 Bio-accumulative potential**

*Information on the product as supplied:*

Not expected to bio-accumulate

Partition co-efficient (Log Pow):	No data available
Bio concentration factor (BCF):	No data available

### **12.4 Mobility in soil**

<i>Information on the product as supplied:</i>	No data available.
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### **12.5 Other adverse effects**

None Known.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Waste from residues / unused products:

Dispose of in accordance with local, state, and federal regulations.

Contaminated packaging:

Dispose of in accordance with local, state, and federal regulations.

Recycling:

Store containers and offer for recycling in accordance with local, state, and federal regulations.

## SECTION 14: TRANSPORT INFORMATION

### Land transport (DOT)

UN Number

UN2735

Proper Shipping Name

Amines, liquid, corrosive, n.o.s. (Diethylaminoethanol, Cyclohexylamine)

Hazard Class

8

Packing Group

III

### Sea transport (IMDG)

UN Number

UN2735

Proper Shipping Name

Amines, liquid, corrosive, n.o.s. (Diethylaminoethanol, Cyclohexylamine)

Hazard Class

8

Packing Group

III

### Air transport (IATA)

UN Number

UN2735

Proper Shipping Name

Amines, liquid, corrosive, n.o.s. (Diethylaminoethanol, Cyclohexylamine)

Hazard Class

8

Packing Group

III

## SECTION 15: REGULATORY INFORMATION

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

#### TSCA Chemical Substances Inventory:

All components of this product are either listed on the inventory or are exempt from listing.

#### US SARA Reporting Requirements:

Section 302/304: The following materials are present;

<u>Component</u>	<u>CASRN</u>	<u>302 TPQ (lbs)</u>	<u>304 EHS RQ (lbs)</u>	<u>Product RQ</u>
Cyclohexylamine	108-91-8	10,000	10,000	76,900

Section 311/312: Skin Corrosion or Irritation : Serious eye damage or eye irritation : Acute toxicity : Reproductive toxicity

Section 313: - This material contains the following chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III.

<u>Component(s)</u>	<u>CASRN</u>
None	

CAA (112r) HAPS:

<u>Component</u>	<u>CASRN</u>	<u>TQ (lbs)</u>	<u>Product TQ (lbs)</u>	CAA
Cyclohexylamine	108-91-8	15,000	115,300	

Version# : 2

Supersedes version #: 1

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**CWA:** This product contains the following substances regulated as pollutants pursuant to the CWA (40 CFR 122.21 and 40 CFR 122.42).

<u>Component</u>	<u>CASRN</u>	<u>RQ (lbs)</u>	<u>Product RQ (lbs)</u>
None			

**CERCLA:**

<u>Component(s)</u>	<u>CASRN</u>	<u>(RQ) (lbs)</u>	<u>Product RQ (lbs)</u>
None			

**Pennsylvania Worker and Community Right-To-Know Act:**

The following chemicals are listed because of the additional requirements of Pennsylvania law:

<u>Components</u>	<u>CASRN</u>	
Cyclohexylamine	108-91-8	E
Diethylaminoethanol	100-37-8	
Morpholine	110-91-8	

**California Proposition 65 Information:**

WARNING: This product may contain the following chemical(s) known to the State of California to cause cancer, birth defects, or other reproductive harm:

<u>Components</u>	<u>CASRN</u>
None	

**Department of Homeland Security (DHS) - Chemical of Interest (COI):**

<u>Components</u>	<u>CASRN</u>	<u>Release lbs</u>	<u>Product (lbs)</u>
Cyclohexylamine	108-91-8	15,000	115,300

## SECTION 16: OTHER INFORMATION

**NFPA and HMIS Ratings:**

<u>NFPA:</u>	
Health	2
Fire Hazard	2
Reactivity	0

<u>HMIS:</u>	
Health	2
Flammability	2
Physical Hazard	0
PPE Code	H

This SDS was prepared in accordance with the following:  
U.S. Code of Federal Regulations 29 CFR 1910.1200

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

\*\*\*\* END OF SDS \*\*\*\*