



SAFETY DATA SHEET

ANGUS CHEMICAL COMPANY

Product name : AMPD™ Ultra PC , Neutralizing Amine

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ANGUS CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name AMPD™ Ultra PC , Neutralizing Amine

Manufacturer or supplier's details

Company name of supplier ANGUS CHEMICAL COMPANY

Address 1500 E. LAKE COOK ROAD
Buffalo Grove IL 60089-6553

Customer Information Number +1-847-808-3711

E-mail address NAR_CC@ANGUS.COM

Emergency telephone number 800-424-9300

Recommended use of the chemical and restrictions on use

Recommended use Neutralizing agent.
Use in personal care products
For industrial use.
The ANGUS Chemical Company recommends that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact the Customer Information Group (see Section 1 of this data sheet).

2. HAZARDS IDENTIFICATION

GHS Classification

Serious eye damage Category 1

GHS Label elements, including precautionary statements

Hazard pictograms



Signal word

Danger

Hazard statements

Causes serious eye damage.

Precautionary statements

Prevention:

Wear eye protection/ face protection.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

Other hazards

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a substance.

Components

Chemical Name	CAS-No.	Concentration (% w/w)
2-Amino-2-methyl-1,3-propanediol	115-69-5	>= 99.0 %

4. FIRST AID MEASURES

If inhaled	Move person to fresh air; if effects occur, consult a physician.
In case of skin contact	Suitable emergency safety shower facility should be available in work area. Wash off with plenty of water.
In case of eye contact	Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.
If swallowed	Do not induce vomiting. Give one cup (8 ounces or 240 ml) of

	water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.
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.
Protection of first-aiders	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.
Notes to physician	Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. No specific antidote. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	Water fog or fine spray. Carbon dioxide fire extinguishers. Dry chemical fire extinguishers. Foam.
Specific hazards during firefighting	None known.
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 dioxide. Carbon monoxide. Nitrogen oxides.
Further information	Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. If material is molten, do not apply direct waterstream. Use fine water spray or foam. Keep people away. Isolate fire and deny unnecessary entry.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire

from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.
Environmental precautions	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.
Methods and materials for containment and cleaning up	Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Advice on safe handling	Keep container closed. Avoid contact with eyes, skin, and clothing. Good housekeeping and controlling of dusts are necessary for safe handling of product. Avoid generating and breathing dust. Wash thoroughly after handling. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.
Conditions for safe storage	Keep container tightly closed when not in use. Store in a cool, dry place. Store in original container. Do not store in: Zinc. Galvanized containers. Aluminum. Copper. Copper alloys. Brass.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures

Local exhaust ventilation may be necessary for some
operations.
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.

Personal protective equipment

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.
In dusty or misty atmospheres, use an approved particulate respirator.
The following should be effective types of air-purifying respirators:
Particulate filter.

Hand protection

Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Neoprene. Polyvinyl chloride ("PVC" or "vinyl"). Nitrile/butadiene rubber ("nitrile" or "NBR"). 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.

Eye protection

Use chemical goggles.

Skin and body protection

When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots, apron, or full-body suit will depend on the task.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Crystals
Color	White
Odor	Amine.
Odor Threshold	No test data available
pH	10.8 Method: Literature (0.1 M in water)

Melting point/range	105 °C (221 °F) Method: Literature
Freezing point	105 °C (221 °F) Method: Literature
Boiling point/boiling range	Not applicable
Flash point	Test Type: closed cup Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	No data available.
Upper explosion limit	No test data available
Lower explosion limit	No test data available
Vapor Pressure	(25 °C) Method: Literature Nil
Relative Vapor Density (air = 1)	Not applicable
Relative density	No data available.
Water solubility	71.4 %Method: Literature Miscible with water
Partition coefficient: n-octanol/water	log Pow: -1.1 Method: Estimated. Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Auto-ignition temperature	Not applicable
Decomposition temperature	No test data available
Viscosity	
Viscosity, dynamic	Not applicable
Viscosity, kinematic	Not applicable
Explosive properties	No data available.
Oxidizing properties	No data available.
Molecular weight	105.14 g/mol Method: Literature
Hygroscopic	yes

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity	No dangerous reaction known under conditions of normal use.
Chemical stability	Hygroscopic Stable under recommended storage conditions. See Storage, Section 7.
Possibility of hazardous reactions	Polymerization will not occur.
Conditions to avoid	Exposure to elevated temperatures can cause product to decompose. Avoid moisture.
Incompatible materials	Corrosive when wet. Avoid contact with: Strong acids. Strong oxidizers. Avoid contact with metals such as: Zinc. Galvanized metals. Aluminum. Copper. Copper alloys. Brass. Avoid unintended contact with: Halogenated hydrocarbons.
Hazardous decomposition products	Decomposition products depend upon temperature, air supply and the presence of other materials.

11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

Product:

Acute oral toxicity	Remarks: Swallowing may result in irritation or burns of the mouth, throat, and gastrointestinal tract. Low toxicity if swallowed. LD50 (Mouse): 3,500 mg/kg
Acute inhalation toxicity	Remarks: At room temperature, exposure to vapor is minimal due to low volatility. Dust may cause irritation to upper respiratory tract (nose and

throat).

Remarks: The LC50 has not been determined.

Acute dermal toxicity

Remarks: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Remarks: The dermal LD50 has not been determined.

Skin corrosion/irritation

Product:

Result: No skin irritation

Remarks: Prolonged contact may cause severe skin irritation with local redness and discomfort.
Brief contact may cause skin irritation with local redness.

Serious eye damage/eye irritation

Product:

Result: Corrosive

Remarks: May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Respiratory or skin sensitization

Product:

Remarks: For skin sensitization:

Did not cause allergic skin reactions when tested in humans.

Remarks: For respiratory sensitization:

No relevant data found.

Carcinogenicity

Product:

No relevant data found.

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Teratogenicity

Product

No relevant data found.

Mutagenicity

Product:

In vitro genetic toxicity studies were negative.

Reproductive toxicity

Product:

No relevant data found.

STOT - single exposure

Product:

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

Repeated dose toxicity

Product:

Remarks: No relevant data found.

Aspiration toxicity

Product:

Aspiration Hazard

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish

Remarks: Material is practically non-toxic to fish on an acute basis (LC50 > 100 mg/L).

LC50 (Danio rerio (zebra fish)): > 10,000 mg/l

Exposure time: 96.0 h

Test Type: static test

Method: OECD Test Guideline 203 or Equivalent

Toxicity to bacteria

EC50 (Bacteria): > 10,000 mg/l

End point: Respiration rates.

Exposure time: 16 h

Persistence and degradability

Product:

Biodegradability

Result: Readily biodegradable

Remarks: Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

Biodegradation: 96.7 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent
Remarks: 10-day Window: Not applicable

ThOD

2.130 mg/mg

Method: Estimated.

Photodegradation

Rate constant: Degradation half life: 0.359 d
Method: Estimated.

Bioaccumulative potential

Product:

Partition coefficient: n-
octanol/water

log Pow: -1.1
Method: Estimated.
Remarks: Bioconcentration potential is low (BCF < 100 or Log
Pow < 3).

Mobility in soil

Product:

Distribution among
environmental compartments

Koc: 1
Method: Estimated.
Remarks: Potential for mobility in soil is very high (Koc
between 0 and 50).

Other adverse effects

Product:

Ozone-Depletion Potential

Regulation: 40 CFR Protection of Environment; Part 82
Protection of Stratospheric Ozone - CAA Section 602 Class I
Substances
Remarks: This product neither contains, nor was
manufactured with a Class I or Class II ODS as defined by the
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +
B).

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues

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.
THE 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. Landfill.
ANGUS HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL.

14. TRANSPORT INFORMATION

International Regulation

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

National Regulations

49 CFR (DOT) – NON BULK

Not regulated as a dangerous good

49 CFR (DOT) - BULK

Not regulated as a dangerous good

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.

15. REGULATORY INFORMATION

OSHA Hazards

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

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards

Acute Health Hazard

SARA 302

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

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

Cas No.	Component
115-69-5	2-Amino-2-methyl-1,3-propanediol

New Jersey Right To Know

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

Cas No.	Component
115-69-5	2-Amino-2-methyl-1,3-propanediol

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

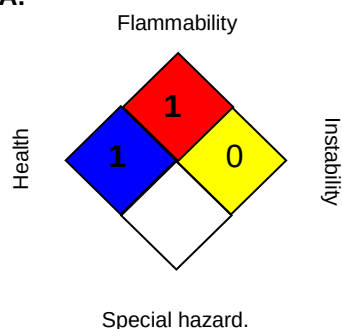
United States TSCA Inventory

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	0

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

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US / EN

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 guidance 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.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance;

ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative