



MSDS -- MATERIAL SAFETY DATA SHEET

AKColor Buffer Solution B

Buffer Solution B (AKColor)

1. PRODUCT IDENTIFICATION

ACU-TROL PART NUMBER: 744-000-210
PRODUCT NAME: AKColor Buffer Solution B
CHEMICAL FAMILY: Inorganic salt solution

2. INGREDIENTS

INGREDIENT	CAS#	%	NATURE OF HAZARD
Maleic Acid	110-16-7	<10	Irritant acid
Lithium Hydroxide	1310-66-3	<10	Irritant alkali
Sulfuric Acid	7664-93-9	<1	Irritant acid
Sodium hydroxide	1310-73-2	<1	Irritant alkali
Deionized water	7732-18-2	<94	None

3. PHYSICAL/CHEMICAL CHARACTERISTICS

STATE: Liquid APPEARANCE: Clear, colorless ODOR: None
BOILING PT (F): 212 pH: 10 SPECIFIC GRAVITY: 1.24
VAPOR PRESSURE (mm Hg): 17 VAPOR DENSITY (AIR=1): .64
PERCENT VOLATILE BY VOLUME: 94 SOLUBILITY IN WATER: Soluble

4. FIRE, EXPLOSION HAZARD AND REACTIVITY DATA

FLASH PT: NA METHOD: NA
FLAMMABLE LIMITS: LEL: NA UEL: NA
EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, water spray or foam
SPECIAL PROCEDURES: Wear self-contained (positive pressure if available)
breathing apparatus and full-protective clothing
FIRE/EXPLOSION HAZARDS AND HAZARDOUS DECOMPOSITION PRODUCTS:
NFPA CODE: Health: 1 Flammability: 0 Reactivity: 0 Specific: NA
CONDITIONS TO AVOID: Extreme heat, temperatures.

5. HEALTH HAZARD DATA

INGREDIENT: Sodium hydroxide
TOXICITY: LD50(oral-rat): 140-340 mg/kg
PEL: 2 mg/m³ TLV: 2 mg/m³
STEL: NE
ROUTE(S) OF ENTRY: Inhalation Ingestion X Skin X
TARGET ORGAN(S): Eyes, skin
CARCINOGENICITY: NTP No IARC No OSHA No

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HEALTH HAZARDS AND SYMPTOMS OF EXPOSURE:

EYES: Irritant

SKIN: Irritant

INGESTION: Irritant. May cause gastrointestinal irritation, nausea, and diarrhea.

INHALATION: NA

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Eye and skin conditions

6.PRECAUTIONARY MEASURES

PROTECTIVE EQUIPMENT: General purpose gloves, safety glasses, lab coat

HANDLING: Avoid contact with eyes, skin, and clothing. Avoid breathing chemical. Wash thoroughly after handling.

STORAGE: Cool, dry area. Avoid direct sunlight.

7.EMERGENCY AND FIRST AID PROCEDURES

EYE AND SKIN CONTACT: Immediately flush eyes with water for 15 minutes.

Call physician. Wash skin thoroughly with soap and water.

INGESTION: Induce vomiting if conscious (awake), then give large amounts of water. Call physician.

INHALATION: NA

8.SPILL AND DISPOSAL PROCEDURES

SPILL OR RELEASE: Absorb with vermiculite or other inert material.

Containerize for later disposal.

DISPOSAL: Incineration or other method to comply with all local, state, and Federal regulations.

NA = Not applicable

ND = Not determined

NE = Not established

This Material Safety Data Sheet has been prepared in accordance with 29 CFR Part 1910.1200 and contains information believed to be accurate and complete at the date of preparation. However, no warranty is expressed or implied. Advice given under "Spill and Disposal Procedures" assumes compliance with federal, state, and local regulations regarding the disposal of hazardous waste.

DATE PREPARED: May 2006 (Reaffirmed January 2012)



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MSDS -- MATERIAL SAFETY DATA SHEET

AKColor DPD Solution D

DPD Solution D (AKColor)

1. PRODUCT IDENTIFICATION

ACU-TROL PART NUMBER: 744-000-220

PRODUCT NAME: AKColor DPD Solution D (mix 1 + mix 2)

CHEMICAL FAMILY: Acidic organic amine solution

2. INGREDIENTS

INGREDIENT	CAS#	%	NATURE OF HAZARD
N,N-Diethyl-p-phenylene-diamine sulfate	6283-63-2	<3	Irritant, toxic
Organic acid (trade secret)	Confidential	<5	Irritant acid
Sulfuric acid	7664-93-9	<3	Irritant acid
Deionized water	7732-18-2	<96	None

3. PHYSICAL/CHEMICAL CHARACTERISTICS

STATE: Liquid APPEARANCE: Clear, colorless ODOR: None

BOILING PT (F): 212 pH: 1.3 SPECIFIC GRAVITY: 1.01

VAPOR PRESSURE (mm Hg): 17 VAPOR DENSITY (AIR=1): .65

PERCENT VOLATILE BY VOLUME: 96 SOLUBILITY IN WATER: Soluble

4. FIRE, EXPLOSION HAZARD AND REACTIVITY DATA

FLASH PT: NA METHOD: NA

FLAMMABLE LIMITS: LEL: NA UEL: NA

EXTINGUISHING MEDIA: NA

SPECIAL PROCEDURES: Wear self-contained (positive pressure if available) breathing apparatus and special protective clothing

FIRE/EXPLOSION HAZARDS AND HAZARDOUS DECOMPOSITION PRODUCTS:

May emit toxic fumes of carbon dioxide, carbon monoxide, nitrogen oxides, phosphine, phosphorus oxides, sulfur oxides. Contact with metals may produce hydrogen gas.

NFPA CODE: Health: 2 Flammability: 0 Reactivity: 1 Specific: NA

CONDITIONS TO AVOID: Extreme heat, temperatures. Contact with metals, oxidizers, strong caustic.

5. HEALTH HAZARD DATA

INGREDIENT: Organic acid

TOXICITY: LD50(oral-rat): 2400 mg/kg LD50(skn-rbt): >7940 mg/kg

PEL: NE TLV: NE STEL: NE

INGREDIENT: N,N-Diethyl-p-phenylenediamine sulfate

TOXICITY: LD50(unr-rat): 450 mg/kg
PEL: NE TLV: NE
STEL: NE

ROUTE(S) OF ENTRY: Inhalation Ingestion X Skin X
TARGET ORGAN(S): Eyes, skin, gastrointestinal tract
CARCINOGENICITY: NTP No IARC No OSHA No
HEALTH HAZARDS AND SYMPTOMS OF EXPOSURE:
EYES: Irritant
SKIN: Irritant. Contact may cause dermatitis.
INGESTION: Irritant, toxic. May cause gastrointestinal irritation, nausea,
cramps, diarrhea.
INHALATION: NA
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Eye and skin conditions

6.PRECAUTIONARY MEASURES

PROTECTIVE EQUIPMENT: General purpose gloves, safety glasses, lab coat
HANDLING: Avoid contact with eyes, skin, and clothing. Avoid breathing
chemical. Wash thoroughly after handling.
STORAGE: Cool, dry area. Avoid direct sunlight.

7.EMERGENCY AND FIRST AID PROCEDURES

EYE AND SKIN CONTACT: Immediately flush eyes with water for 20 minutes
or until chemical is removed. Call physician. Wash skin thoroughly
with soap and water.
INGESTION: Induce vomiting if conscious (awake), then give large amounts of water or
large amounts of water with milk. Call physician. DO NOT give anything by mouth to a
person who is unconscious, rapidly losing consciousness, or convulsing.
INHALATION: NA

8.SPILL AND DISPOSAL PROCEDURES

SPILL OR RELEASE: Neutralize with soda ash. Absorb with vermiculite or
other inert material. Containerize for later disposal.
DISPOSAL: Incineration or other method to comply with all local, state, and
federal regulations.

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MSDS -- MATERIAL SAFETY DATA SHEET

AKColor Total Solution T

Total Solution T (AKColor)

1.PRODUCT IDENTIFICATION

ACU-TROL PART NUMBER: 744-000-230
PRODUCT NAME: AKColor Total Solution T
CHEMICAL FAMILY: Inorganic salt solution

2.INGREDIENTS

INGREDIENT	CAS#.	%	NATURE OF HAZARD
Potassium iodide	7681-11-0	<15	Irritant
Sodium carbonate	497-19-8	<1	Irritant alkali
Deionized water	7732-18-5	<92	None

3.PHYSICAL/CHEMICAL CHARACTERISTICS

STATE: Liquid APPEARANCE: Clear, colorless ODOR: None
BOILING PT (F): 212 pH: 10.5 SPECIFIC GRAVITY: 1.07
VAPOR PRESSURE (mm Hg): 17 VAPOR DENSITY (AIR=1): .6
PERCENT VOLATILE BY VOLUME: 92 SOLUBILITY IN WATER: Soluble

4.FIRE, EXPLOSION HAZARD AND REACTIVITY DATA

FLASH PT: NA METHOD: NA
FLAMMABLE LIMITS: LEL: NA UEL: NA
EXTINGUISHING MEDIA: NA
SPECIAL PROCEDURES: Wear self-contained (positive pressure if available)
breathing apparatus and full-protective clothing
FIRE/EXPLOSION HAZARDS AND HAZARDOUS DECOMPOSITION PRODUCTS:
May emit toxic fumes of iodine.
NFPA CODE: Health: 0 Flammability: 0 Reactivity: 0 Specific: NA
CONDITIONS TO AVOID: Extreme heat, temperatures. Contact with oxidizers,
acids.

5.HEALTH HAZARD DATA

INGREDIENT: Potassium iodide
TOXICITY: LD50(oral-mus): 1862 mg/kg
PEL: NE TLV: NE
STEL: NE

ROUTE(S) OF ENTRY: Inhalation Ingestion X Skin X
TARGET ORGAN(S): Eyes, skin
CARCINOGENICITY: NTP No IARC No OSHA No
HEALTH HAZARDS AND SYMPTOMS OF EXPOSURE:

EYES: Irritant

SKIN: Irritant. Contact may cause dermatitis.

INGESTION: Irritant. May cause gastrointestinal irritation.

INHALATION: NA

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Eye and skin conditions

6. PRECAUTIONARY MEASURES

PROTECTIVE EQUIPMENT: General purpose gloves, safety glasses, lab coat

HANDLING: Avoid contact with eyes, skin, and clothing. Avoid breathing chemical. Wash thoroughly after handling.

STORAGE: Cool, dry area. Avoid direct sunlight.

7. EMERGENCY AND FIRST AID PROCEDURES

EYE AND SKIN CONTACT: Immediately flush eyes with water for 15 minutes.

Call physician. Wash skin thoroughly with soap and water.

INGESTION: Give large amounts of water. Call physician. Induce vomiting under direction of physician.

INHALATION: NA

8. SPILL AND DISPOSAL PROCEDURES

SPILL OR RELEASE: Absorb with vermiculite or other inert material.

Containerize for later disposal.

DISPOSAL: Incineration or other method to comply with all local, state, and federal regulations.

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