

ENG SCIENTIFIC, INC.
(a.k.a., A.J.P. SCIENTIFIC, INC.)

MATERIAL SAFETY DATA SHEET

SECTION I

Manufacturer: ENG Scientific, Inc. (a.k.a., A.J.P. Scientific, Inc.)

Address: P.O. Box 1589 - Clifton, NJ 07015

For Information on Health Hazards Call: (973) 472-7200

Product Name: SOLUTION - I CRYSTAL VIOLET

Product Number: AGS-SK-2000

SECTION II - HAZARDOUS INGREDIENTS

Component: Crystal Violet	CAS # 548-62-9
NFPA RATINGS: - HEALTH:	0
- FLAMMABILITY:	0
- REACTIVITY:	0

SECTION III - PHYSICAL DATA

Boiling Point, 101.325 kPa > NA
760 mm Hg

Specific Gravity (H₂O = 1) NA

Vapor Density (air = 1) Solubility in H₂O = Complete

Appearance and Odor Dark purple liquid, odorless

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media: Use water spray, carbon dioxide, dry chemical, alcohol-type or universal type foams.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION V - REACTIVITY DATA

Incompatibility: Strong oxidizing agents.
Hazardous Combustion or Decomposition Products: Carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen chloride gas.

SECTION VI - HEALTH HAZARD INFORMATION

RTECS # BO9000000

AMMONIUM, (4-(BIS(P-(DIMETHYLAMINO)PHENYL)METHYLENE) -2,5-CYCLOHEXADIEN-1-YLIDENE) DIMETHYL-, CHLORIDE

LD50 (ORL - RAT) = 420 mg/kg ARZNAD 1,5,51

LD50 (IPR - RAT) = 8900 ug/kg ARZNAD 1,5,51

LD50 (ORL - MUS) = 96 mg/kg ARZNAD 1,5,51

LD50 (IPR - MUS) = 5100 ug/kg ARZNAD 1,5,51

SECTION VII - HEALTH HAZARD INFORMATION

Significant Routes and Effects of Exposure: Harmful if swallowed. Material is irritating to mucous membranes and upper respiratory tract. Causes eye and skin irritation.

Safety Precautions: Avoid contact with eyes, skin or clothing.

First Aid: In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. If inhaled, remove to fresh air. If not breathing, give artificial respiration; preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician. Wash contaminated clothing before re-use.

SECTION VIII - SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled: Wear gloves and soak up spilled solution with disposable towels.

Waste disposal method: Small spills should be flushed with large quantities of water. Large spills should be collected for disposal.

Waste Disposal Method: Flush with water, controlled burning.

SECTION IX - SPECIAL PROTECTION INFORMATION

Ventilation: General (mechanical) room ventilation should be suitable. Special local, ventilation should be used at points where vapors are expected to be vented to the workplace air.

Protective Gloves: Solvent resistant.

Eye Protection: Goggles or safety glasses.

Other Protective Equipment: Lab Coat. Eye bath, safety shower.

SECTION X - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Protect units against physical damage.

Other precautions: Store cool, dry area. Store in tightly closed container. Do not ingest.

Note: Disposal of hazardous material may be subject to federal, state, or local regulations. The information contained in this document is believed to be factual, however, nothing presented herein is to be taken as a warranty or representation for which ENG Scientific, Inc. (a.k.a., A.J.P. Scientific, Inc.) shall be

responsible.

Revision: 1/01/2010

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Address: P.O. Box 1589 - Clifton, NJ 07015

For Information on Health Hazards Call: (973) 472-7200

Product Name: SOLUTION II - GRAMS IODINE

Product Number: AGS-SK-2000

SECTION II - HAZARDOUS INGREDIENTS

Component:	Iodine, Crystal	CAS #	7553-56-2
	Potassium Iodide		7681-11-0
NFPA RATINGS:	- HEALTH:	2	
	- FLAMMABILITY:	0	
	- REACTIVITY:	0	

SECTION III - PHYSICAL DATA

Boiling Point, 101.325 kPa >
760 mm Hg 184.4°C

Specific Gravity (H₂O = 1) 4.930 @ 20/20°C

Vapor Density (air = 1) 9.0 Vapor Pressure = .31 MM @ 25°C

Appearance and Odor Dark amber liquid, characteristic odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media: Dry chemical powder.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION V - REACTIVITY DATA

Incompatibilities: Magnesium, zinc, ammonia, aluminum, corrodes steel.

Hazardous Combustion or Decomposition Products - No information found.

SECTION VI - HEALTH HAZARD INFORMATION

RTECS # NN1575000 IODINE

ORL-RAT LD50:14 GM/KG

DRFUD4 4,876,79

ORL-MUS LD50:22 MG/KG

DRFUD4 4,876,79

ORL-RBT LD50:10 MG/KG

DRFUD4 4,876,79

SECTION VI -HEALTH HAZARD INFORMATION (Cont'd)

Only selected registry of toxic effects of chemical substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

Acute Effects: Harmful if swallowed, inhaled, or absorbed through skin. Material is extremely destructive to tissue of mucous membranes and upper respiratory tract, eyes, and skin.

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Exposure Can Cause: Stomach pains, vomiting, diarrhea, damage to eyes, dermatitis.

First Aid: In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes. If inhaled, remove to fresh air. If not breathing, give artificial respiration; If breathing is difficult, give oxygen. Call a physician.

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled: Wear gloves and soak up spilled solution with disposable towels.

Waste disposal method: Small spills should be flushed with large quantities of water. Large spills should be collected for disposal.

Waste Disposal Method: Flush with water, controlled burning.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation: General (mechanical) room ventilation should be suitable. Special local, ventilation should be used at points where vapors are expected to be vented to the workplace air.

Protective Gloves: Solvent resistant.

Eye Protection: Goggles or safety glasses.

Other Protective Equipment: Lab Coat. Eye bath, safety shower.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Protect units against physical damage.

Other precautions: Store cool, dry area. Store in tightly closed container. Do not ingest.

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Address: P.O. Box 1589 - Clifton, NJ 07015

For Information on Health Hazards Call: (973) 472-7200

Product Name: SOLUTION III - ACETONE ALCOHOL

Product Number: AGS-SK-2000

SECTION II - HAZARDOUS INGREDIENTS

Component	%	CAS #
Acetone	30	67-64-1
Ethanol	70	64-17-5
NFPA RATINGS: - HEALTH:	2	
- FLAMMABILITY:	3	
- REACTIVITY:	0	

SECTION III - PHYSICAL DATA

Boiling Point, 101.325 kPa > 79⁰C (174⁰F)
760 mm Hg

Specific Gravity (H₂O = 1) 0.7920 @ 20/20⁰C

Vapor Density (air = 1) 1.6 Solubility in H₂O = Complete

Percent Volatile by Volume = 100 Vapor Pressure = 7 kPa

Freezing Point -85⁰C (-121⁰F) Evaporation Rate = 3.9

Appearance and Odor Water-white liquid; nonresidual odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point 51⁰F, Tag Closed Cup 61⁰F, Tag Open Cup
(test methods)

Flammable Limits in Air, % by volume: Lower=3.3 Upper=36.0
(Ethyl Alcohol) (Ethyl Alcohol)

SECTION IV - FIRE AND EXPLOSION HAZARD DATA (cont'd.)

Extinguishing Media: Use water spray, carbon dioxide, dry chemical, alcohol-type, or universal type foams applied by manufacturer's recommended technique.

Special Fire Fighting Procedures: Approach ethanol fire with caution, ethanol burns with almost an invisible flame. Use self-contained breathing apparatus, and protective clothing.

Unusual Fire and Explosion Hazards: None

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: Avoid open flames.

Incompatibility: None.

(materials to avoid)

Hazardous Polymerization: Will not occur.

SECTION VI - SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled: Wear gloves and soak up spilled solution with disposable towels.

Waste disposal method: Small spills should be flushed with large quantities of water. Large spills should be collected for disposal.

Waste Disposal Method: Flush with water, controlled burning.

SECTION VII - SPECIAL PROTECTION INFORMATION

Respiratory Protection: Not ordinarily required.

Ventilation: General (mechanical) room ventilation should be suitable. Special local, ventilation should be used at points where vapors are expected to be vented to the workplace air.

Protective Gloves: Rubber

Eye Protection: Goggles or safety glasses.

Other Protective Equipment: Lab Coat. Eye bath, safety shower.

SECTION VIII - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Protect units against physical damage.

Other precautions: Store cool, dry area. Store in tightly closed container. Do not ingest.

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Address: P.O. Box 1589 - Clifton, NJ 07015

For Information on Health Hazards Call: (973) 472-7200

Product Name: SOLUTION IV - SAFRANIN

Product Number: AGS-SK-2000

SECTION II - HAZARDOUS INGREDIENTS

Component: Safranin	CAS # 477-73-6
NFPA RATINGS: - HEALTH:	0
- FLAMMABILITY:	0
- REACTIVITY:	0

SECTION III - PHYSICAL DATA

Boiling Point, 101.325 kPa > NA
760 mm Hg

Specific Gravity (H₂O = 1) NA

Vapor Density (air = 1) Solubility in H₂O = Complete

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Extinguishing Media: Use water spray, carbon dioxide, dry chemical, alcohol-type or universal type foams.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION V - REACTIVITY DATA

Incompatibility: Strong oxidizing agents.
Hazardous Combustion or Decomposition Products: Carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen chloride gas.

SECTION VI - HEALTH HAZARD INFORMATION

RTECS # SG 1623000

Significant Routes and Effects of Exposure: Harmful if swallowed.

Material is irritating to mucous membranes and upper respiratory tract. Causes eye and skin irritation.

SECTION VI - HEALTH HAZARD INFORMATION

Safety Precautions: Avoid contact with eyes, skin or clothing.

First Aid: In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. If inhaled, remove to fresh air. If not breathing, give artificial respiration; preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician. Wash contaminated clothing before re-use.

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled: Wear gloves and soak up spilled solution with disposable towels. Waste disposal method: Small spills should be flushed with large quantities of water. Large spills should be collected for disposal. Waste Disposal Method: Flush with water, controlled burning.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation: General (mechanical) room ventilation should be suitable. Special local, ventilation should be used at points where vapors are expected to be vented to the workplace air. Protective Gloves: Solvent resistant. Eye Protection: Goggles or safety glasses. Other Protective Equipment: Lab Coat. Eye bath, safety shower.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Protect units against physical damage. Other precautions: Store cool, dry area. Store in tightly closed container. Do not ingest.

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