Pioneer Forensics LLC
VERITATEM PER EVIDENTIA
"Truth Through Evidence"

SDS

Safety Data Sheet

1. IDENTIFICATION

Product Identifier: **Rhodamine 6G Solution**

Product Code(s): PF30045

Synonyms: Mixture.

Recommended Use: For manufacturing, industrial, and laboratory use only. Use as a laboratory reagent.

Uses Advised Against: Not for food, drug, or household use.

Supplier:
Pioneer Forensics, LLC
4621 Technology Drive
Golden, CO 80403
Phone: (303) 762-0800

Emergency Phone Number: For health emergency, call poison control: (800) 222-1222.

2. HAZARDS IDENTIFICATION

Hazard Classifications:

Acute Toxicity – Oral:	Category 3
Acute Toxicity – Dermal:	Category 3
Acute Toxicity – Inhalation:	Category 3
Specific Target Organ Toxicity (Single Exposure):	Category 1
Flammable Liquids:	Category 2

Signal Word: DANGER

Hazard Statements:
Toxic if swallowed.
Toxic in contact with skin.
Toxic if inhaled.
Causes damage to organs.
Highly flammable liquid and vapor.

Pictograms:



Precautionary Statements:

Prevention:
Wash thoroughly after handling.
Do not eat, drink, or smoke when using this product.
Wear protective gloves, protective clothing, eye protection, and face protection.
Do not breathe fumes, mist, vapors, or spray.
Use only outdoors or in a well-ventilated area.
Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
Keep container tightly closed.
Ground or bond container and receiving equipment.
Use explosion-proof electrical, ventilating, lighting, and transportation equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.

Response:
If swallowed: Immediately call a poison center or doctor. Rinse mouth.
If on skin (or hair): Wash with plenty of water. Call a poison center or doctor if you feel unwell. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.
If inhaled: Remove person to fresh air and keep comfortable for breathing. Calla poison center or doctor.
If exposed: Call a poison center or doctor.
In case of fire: Use water spray, dry powder, alcohol resistant foam, or carbon dioxide to extinguish.

Storage:
Store locked up.
Store in a well-ventilated place.
Keep container tightly closed.
Keep cool.

Disposal:
Dispose of contents and container in accordance with local, regional, national, and international regulations.

Hazards Not Otherwise Classified:
This product is toxic to humans. Primates are especially susceptible to the toxic effects of methanol, which are not reflected through toxicity data (see Section 11).
May cause adverse reproductive effects.

Toxicity Statement:
Not applicable.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Component	Common Name / Synonyms	CAS#	Chemical Formula	% by Weight
Methanol	Methyl Alcohol	67-56-1	CH_3OH	> 99*
Rhodamine 6G	Rhodamine 6G	989-38-8	$C_{28}H_{31}ClN_2O_3$	< 1*

Trade Secret Statement:
*The specific concentrations of each component have been withheld under a trade secret. Any effects of these concentrations on the overall hazard classification of this product are considered, and health and safety information are provided where applicable.

4. FIRST AID MEASURES

First Aid Procedures:

Inhalation:
Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious, or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce

artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a poison center or doctor.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, keep head low so that vomit does not enter lungs. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or poison control center immediately.

Skin Contact: Remove contaminated clothing and shoes. Wash skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Get medical attention if symptoms occur.

Eye Contact: Check for and remove contact lenses if present and easy to do. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention if irritation persists.

General Advice: Poison information centers in each state can provide additional assistance for scheduled poisons. Ensure that medical personnel and those providing first aid are aware of the material(s) involved and take precautions to protect themselves.

Symptoms and Effects: Ingestion may cause nausea, vomiting, diarrhea, abdominal pain, constipation, decreased motor function, and blindness. Inhalation of vapors may cause drowsiness, dizziness, suffocation, and cardiovascular effects. Contact with skin or eyes may cause irritation. Absorption through skin may cause visual disturbances and metabolic acidosis.

Immediate Medical Care/ Special Treatment: If you feel unwell or are concerned, call a physician or poison control center immediately. Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media: Water spray, dry powder, alcohol resistant foam, carbon dioxide.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream, as it may scatter and spread fire.

Hazardous Combustion Products: Carbon oxides, nitrogen oxides, hydrogen chloride.

Specific Hazards: Highly flammable. Vapors may case flash fire or ignite explosively. Can be ignited easily by heat, sparks, or flames and burns vigorously. Material may burn with an invisible flame. Sealed containers may explode when heated or involved in fire. Material is sensitive to static discharge. Vapors may travel considerable distance to source of ignition and flash back. Vapor from the solvent may accumulate in container headspace, resulting in flammability hazard. High vapor concentration in air may cause an explosion hazard.

Special Protective Equipment/ Precautions for Firefighters: As in any fire, wear MSHA/NIOSH-approved (or equivalent), self-contained, positive-pressure or pressure-demand breathing apparatus and full protective gear. Use water spray to cool unopened containers. Move containers from fire area if you can do so without risk. This material may evaporate if spilled and leave a flammable residue. In the event of fire and/or explosion, do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Protective Equipment: Ventilate area of leak or spill. Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Keep upwind. Keep out of low areas. Wear appropriate personal protective equipment (see Section 8). Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges.

All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. Avoid contact with eyes, skin, and clothing.

Emergency Procedures: Evacuate surrounding personnel as necessary. In case of chemical emergency, or if unsure how to address an accidental release, consult a professional (see Section 1).

Methods for Containment: Eliminate all sources of ignition. Stop the flow of material if this is without risk. Prevent entry into waterways, sewer, basements, or confined areas. Dike the spilled material, where this is possible. Product should not be released to the environment. Contain and recover waste when possible.

Methods for Cleanup: Absorb spill with an inert material (e.g. vermiculite, dry sand, earth, cloth, or fleece) and place in a noncombustible container for reclamation or disposal. Do not flush to sewer. Clean contaminated surface thoroughly. Never return spills in original containers for reuse. Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Handling: Do not handle, store, or open near an open flame, sources of heat, or sources of ignition. Wear personal protective equipment (see Section 8). Use only in well-ventilated areas. Provide sufficient air exchange and/or exhaust in work areas. Avoid contact with skin, eyes, and clothing. Do not breathe vapors or spray mist. Do not ingest. When using, do not eat, drink, or smoke. Take precautionary measures against static discharge. To avoid ignition of vapors by static electricity discharge, all metal parts of equipment must be grounded. Keep away from incompatible materials (see Section 10). Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty, as they retain product residues. Observe all warnings and precautions listed for this product.

Storage: Store in a cool, dry, ventilated area. Store in a segregated and approved area away from incompatible materials (see Section 10). Store in original container. Keep containers tightly closed and upright. Keep away from food, drink, and animal foodstuffs. Keep out of the reach of children. Ground container and transfer equipment. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of this product.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits:

Methanol:	ACGIH:	TWA:	200 ppm
		STEL:	250 ppm
		BEL:	15 mg/L
	OSHA:	PEL:	200 ppm
			260 mg/m^3
Rhodamine 6G:	No information found.		

Engineering Controls: Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Measures:

Eye/Face Protection: Wear safety glasses with side shields or goggles and a face shield. Maintain approved eyewash station and accessible rinse facilities in work area.

Skin Protection:	Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.
Respiratory Protection:	An air-purifying, NIOSH-approved respirator with appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are unknown, or if any other circumstances exist where air-purifying respirators may not provide adequate protection.
Specific Requirements for Personal Protective Equipment:	Ensure that glove material is compatible with this product. This information is available from glove manufacturers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Unless otherwise indicated, all properties are given at 25 °C and standard pressure.

Appearance:	Greenish-orange transparent liquid.
Odor:	Pungent, alcoholic.
Odor Threshold:	100 ppm (estimate)
Formula Weight:	Mixture.
pH:	No information found.
Melting/Freezing Point:	-97.8 °C (estimate)
Boiling Point/Range:	64.7 °C (estimate)
Decomposition Temperature:	No information found.
Flash Point:	9.7 °C (estimate)
Auto-ignition Temperature:	455 °C (estimate)
Flammability:	Explosive as vapor; flammable as liquid.
Flammability/Explosive Limits:	Lower: 6% by volume (estimate) Upper: 36% by volume (estimate)
Solubility:	No information found.
Vapor Pressure:	97.7 mmHg at 20 °C; 410 mmHg at 50 °C (estimate)
Vapor Density:	1.11 (Air = 1) (estimate)
Specific Gravity:	0.791 (Water = 1) (estimate)
Evaporation Rate:	5.2 (Ether = 1) (estimate)
Viscosity:	No information found.
Partition Coefficient (n-octanol/water):	No information found.

10. STABILITY AND REACTIVITY

Reactivity Data:	Highly flammable. See Section 9.
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat, flames, sparks, sources of ignition, direct light, incompatible materials.
Incompatible Materials:	Oxidizing agents, metals, reducing agents, acids.

Hazardous Decomposition Products: Carbon oxides, nitrogen oxides, hydrogen chloride.

Possibility of Hazardous Reactions: May react vigorously, violently, or explosively if exposed to extreme thermal conditions or in contact with the incompatible materials listed above.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure: Inhalation, ingestion, skin contact, eye contact.

Acute Effects: Harmful or fatal if swallowed, inhaled, or absorbed through the skin or eyes. Causes irritation to the eyes, skin, respiratory tract, and gastrointestinal tract. May cause visual disturbances or blindness if absorbed into the blood stream. May affect the blood, brain, urinary system, liver, spleen, eyes, kidneys, cardiovascular system, and pancreas.

Chronic Effects: May cause central nervous system effects. May cause damage to eyesight. Prolonged or repeated exposure may cause liver, kidney, brain, cardiovascular system, blood, spleen, and heart damage as well as adverse reproductive effects, birth defects, mutagenic effects, and dermatitis.

Toxicological Data:

Methanol:

LD_{50} Oral, Rat:	5628 mg/kg
LC_{50} Inhalation, Rat:	87.6 mg/L 6 h
LD_{50} Dermal, Rabbit:	15,800 mg/kg
LDL Oral, Human:	143 mg/kg

Toxic to reproduction based on animal data.

Rhodamine 6G: No information found.

Symptoms of Exposure: Irritation, unconsciousness, visual disturbances, metabolic acidosis, drowsiness, dizziness, suffocation, shortness of breath, nervous system effects, cardiovascular effects, cough, nausea, vomiting, diarrhea, abdominal pain, constipation, blindness, and respiration effects.

Carcinogenic Effects: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicological Data:

Methanol:

EC_{50} Water Flea (Daphnia magna):	> 10,000 mg/L 48 h
LC_{50} Fathead Minnow (Pimephales promelas):	> 100 mg/L 96 h

Rhodamine 6G:
No information found.

Persistence and Degradability: Expected to be readily biodegradable.

Bioconcentration Factor: Methanol: 1.0

Environmental Effects: Not expected to be hazardous to the environment. However, the possibility of an environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL INFORMATION

Disposal Instructions: All wastes must be handled in accordance with local, state, and federal regulations. Minimize exposure to product waste (see Section 8). Do not dispose of unused waste down drains or into sewers.

Contaminated Packaging: Because emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near product container. Offer rinsed packaging material to local recycling facilities.

Waste Codes: U154 (US RCRA Hazardous Waste U List – Ignitable waste)

14. TRANSPORT INFORMATION

DOT:

UN Number: UN1230

Proper Shipping Name: Methanol

Hazard Class: 3

Packing Group: II

ERG Number: 127

Environmental Hazard Regulations: No information found.

Other Transport Precautions: Reportable Quantity: Methanol: 5000 lb

15. REGULATORY INFORMATION

U.S. Federal Regulations:

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

TSCA Inventory: All components of this product are on the U.S. TSCA Inventory.

U.S. EPCRA (SARA Title III):

Section 302: No information found.

Sections 311/312:

Hazard Category	List (Yes/No)
Section 311 – Hazardous Chemical	Yes
Immediate Hazard	Yes
Delayed Hazard	Yes
Fire Hazard	Yes
Pressure Hazard	No
Reactivity Hazard	No

Section 313: De Minimis Concentration: Methanol: 1.0%
Rhodamine 6G: 1.0%

CERCLA Reportable Quantities: Methanol: 5000 lb

International Inventories:

Country or Region	Inventory Name	On Inventory (Yes/No)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*A "Yes" indicates that the listed components of this product comply with the inventory requirements administered by the governing country or region.

16. OTHER INFORMATION

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