

SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: THIOTEST

Recommended restrictions

Recommended use: Indicator solution

Restrictions on use: For industrial use only

Manufacturer/Importer/Distributor Information

Manufacturer

Agfa-Gevaert NV
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2640 Mortsel
Belgium

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E-mail: electronic.sds@agfa.com

Distributor

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Skaneateles

Telephone: 1-832-325-4368

E-mail: customer.care@bhge.com

Emergency telephone number:

Transport Emergency

Non-transportation

Chemtrec: +1 800 4249300

International: +32 3 4442111

Health Emergency Phone: +1 303 6235716

Agfa Information Phone: +1 201 4402500

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation Category 2

Serious Eye Damage/Eye Irritation Category 1

Environmental Hazards

Acute hazards to the aquatic environment Category 1

Label Elements

Hazard Symbol:



Signal Word:

Danger

Hazard Statement: Causes skin irritation.
Causes serious eye damage.
Very toxic to aquatic life.

Precautionary Statements

Prevention: Wear protective gloves/protective clothing/eye protection/face protection.
Avoid release to the environment.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. Immediately call a POISON CENTER/doctor. Take off contaminated clothing. Collect spillage.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Acetic acid	No data available.	64-19-7	3 - <5%
Silver nitrate	SILVER NITRATE	7761-88-8	0.0001 - <1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition Comments: The components are not hazardous or are below required disclosure limits.

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

General information: Get medical attention if symptoms occur.

Inhalation: Move into fresh air and keep at rest. Get medical attention immediately. Show this safety data sheet to the doctor in attendance.

Skin Contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before reuse.
Eye contact:	Flush thoroughly with water for at least 15 minutes. Get medical assistance.
Ingestion:	Rinse mouth with plenty of water. Call a physician immediately. Show this safety data sheet to the doctor in attendance.
Personal Protection for First-aid Responders:	CAUTION! First aid personnel must be aware of own risk during rescue! See Section 8 of the SDS for Personal Protective Equipment.

Most important symptoms and effects, both acute and delayed

Symptoms:	See section 11 of the SDS for additional information on health hazards.
Hazards:	See section 11 of the SDS for additional information on health hazards.

Indication of immediate medical attention and special treatment needed

Treatment:	Treat symptomatically.
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5. Fire-fighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.
Suitable (and unsuitable) extinguishing media	
Suitable extinguishing media:	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.
Special hazards arising from the substance or mixture:	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for fire-fighters	
Special fire-fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Put on protective equipment before entering danger area.
For non-emergency personnel:	Use personal protective equipment.

For emergency responders: Warn everybody of potential hazards and evacuate if necessary. Use personal protective equipment.

Methods and material for containment and cleaning up: Absorb with sand or other inert absorbent. Stop the flow of material, if this is without risk. Transfer to a container for disposal.

Environmental Precautions: Avoid release to the environment. Prevent entry into waterways, sewer, basements or confined areas. Contact local authorities in case of spillage to drain/aquatic environment.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation): Good general ventilation (typically 10 air changes per hour) should be used. 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. Emergency showers and eye wash stations should be available.

Safe handling advice: Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Contact avoidance measures: Contact with incompatible materials.

Storage

Safe storage conditions: Store away from incompatible materials. Store in tightly closed original container in a dry, cool and well-ventilated place.

Safe packaging materials: Suitable materials: Keep in original container.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Acetic acid	TWA	10 ppm	US. ACGIH Threshold Limit Values, as amended
	STEL	15 ppm	US. ACGIH Threshold Limit Values, as amended
	REL	10 ppm 25 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	STEL	15 ppm 37 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
	PEL	10 ppm 25 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
	TWA	10 ppm 25 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended

Silver nitrate - as Ag	TWA	0.01 mg/m3	US. ACGIH Threshold Limit Values, as amended
Silver nitrate - Dust. - as Hg	REL	0.01 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Silver nitrate - as Ag	PEL	0.01 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
	TWA	0.01 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

Appropriate Engineering Controls

Good general ventilation (typically 10 air changes per hour) should be used. 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. Emergency showers and eye wash stations should be available.

Individual protection measures, such as personal protective equipment

General information:

Educate and train employees in the safe use and handling of this product. Do not eat, drink or smoke when using the product. Eye wash facilities and emergency shower must be available when handling this product. Wash at the end of each work shift and before eating, smoking and using the toilet.

Eye/face protection:

Safety goggles

Skin Protection

Hand Protection:

Protective gloves should be used if there is a risk of direct contact or splash., Chemical resistant gloves required for prolonged or repeated contact., Butyl rubber., Glove thickness: > 0.35 mm, Break-through time: > 240 min, Risk of splashes:, Nitrile rubber., Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable., The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Skin and Body Protection:

Wear suitable protective clothing as protection against splashing or contamination.

Respiratory Protection: Under normal conditions of use, respirator protection is not required. In case of inadequate ventilation, use respiratory protection. If respirators are used, OSHA requires compliance with its respiratory protection program (29 CFR 1910.134).

Hygiene measures: Employees should wash their hands and face before eating, drinking, or using tobacco products. Keep away from foodstuffs, drinks and tobacco.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state: liquid
Form: liquid
Color: Colorless
Odor: Mild sour/acidic
Odor Threshold: No data available.
Freezing point: < 32 °F/< 0 °C
Boiling Point: > 212 °F/> 100 °C
Flammability: Not flammable.

Upper/lower limit on flammability or explosive limits

Explosive limit - upper: No data available.
Explosive limit - lower: No data available.
Flash Point: Not applicable Aqueous solution.
Autoignition Temperature: Not applicable Aqueous solution.
Decomposition Temperature: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.
pH: 2.5 (77 °F/25 °C)

Viscosity

Dynamic viscosity: No data available.
Kinematic viscosity: No data available.
Flow Time: No data available.

Solubility(ies)

Solubility in Water: Soluble
Solubility (other): No data available.
Partition coefficient (n-octanol/water): Not applicable Mixture

Vapor pressure: 23 hPa (68 °F/20 °C)
Relative density: 1.0110 (68 °F/20 °C)
Density: No data available.
Bulk density: No data available.
Relative vapor density: No data available.

Particle characteristics

Particle Size: No data available.
Particle Size Distribution: No data available.
Specific surface area: No data available.

Surface charge/Zeta potential: No data available.
Shape: No data available.
Crystallinity: No data available.
Surface treatment: No data available.

Other information

Explosive properties: Not applicable Information on basic physical and chemical properties
Oxidizing properties: Not applicable Information on basic physical and chemical properties
VOC Content: 31.3 g/l ~3.1 %

10. Stability and reactivity

Reactivity: Material is stable under normal conditions.
Chemical Stability: No data available.
Possibility of hazardous reactions: Not known.
Conditions to avoid: Avoid heat or contamination.
Incompatible Materials: None known.
Hazardous Decomposition Products: By heating and fire, harmful vapors/gases may be formed.

11. Toxicological information

Information on likely routes of exposure

Inhalation: Inhalation is the primary route of exposure. In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact: Moderately irritating to skin with prolonged exposure.
Eye contact: Eye contact is possible and should be avoided.
Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix: 106,774.19 mg/kg
Components:
 Acetic acid LD 50 (Rat): 3,310 mg/kg
 Experimental result, Weight of Evidence study
 Silver nitrate LD 50 (Rat): > 2,000 mg/kg
 Experimental result, Key study

Dermal

Product: ATEmix: 34,193.55 mg/kg

Components:

Acetic acid LD 50 (Rabbit): 1,060 mg/kg

Silver nitrate No data available.

Inhalation

Product: Not classified for acute toxicity based on available data.

Components:

Acetic acid LOAEL (Rat, 4 h): 450 ppm 2 = reliable with restrictions; Vapor, Experimental result, Weight of Evidence study

Silver nitrate No data available.

Repeated dose toxicity

Product: No data available.

Components:

Acetic acid NOAEL (Rat(Male), Oral, 8 Weeks): 290 mg/kg Oral Experimental result, Weight of Evidence study

Silver nitrate No data available.

Skin Corrosion/Irritation

Product: No data available.

Components:

Acetic acid No data available.

Silver nitrate No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Components:

Acetic acid Category 1 in vivo , Rabbit, 1 d:

Silver nitrate No data available.

Respiratory or Skin Sensitization

Product: No data available.

Components:

Acetic acid No data available.

Silver nitrate Skin sensitization:, in vivo (Guinea pig): Non sensitising

Carcinogenicity

Product: No data available.

Components:

Acetic acid No data available.

Silver nitrate No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity**In vitro**

Product: No data available.

Components:

Acetic acid No data available.

Silver nitrate No data available.

In vivo

Product: No data available.

Components:
 Acetic acid No data available.
 Silver nitrate No data available.

Reproductive toxicity

Product: No data available.

Components:
 Acetic acid No data available.
 Silver nitrate No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Components:
 Acetic acid No data available.
 Silver nitrate No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Components:
 Acetic acid No data available.
 Silver nitrate No data available.

Aspiration Hazard

Product: No data available.

Components:
 Acetic acid No data available.
 Silver nitrate No data available.

Information on health hazards

Other hazards

Product: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Components:
 Acetic acid NOAEL (Oncorhynchus mykiss, 96 h): 1,000 mg/l Experimental result, Key study
 LC 50 (Oncorhynchus mykiss, 96 h): > 1,000 mg/l Experimental result, Key study
 Silver nitrate LC 50 (Pimephales promelas, 96 h): 1.2 µg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Components:

Acetic acid	EC 50 (Daphnia magna, 48 h): > 300.82 mg/l Experimental result, Key study
Silver nitrate	No data available.

Toxicity to Aquatic Plants

Product:	No data available.
Components:	
Acetic acid	No data available.
Silver nitrate	No data available.

Toxicity to microorganisms

Product:	No data available.
Components:	
Acetic acid	No data available.
Silver nitrate	EC10 (Pseudomonas putida (bacteria), 16 h): < 0.1 mg/l (Information from IUCLID)

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.
Components:	
Acetic acid	No data available.
Silver nitrate	No data available.

Aquatic Invertebrates

Product:	No data available.
Components:	
Acetic acid	No data available.
Silver nitrate	No data available.

Toxicity to Aquatic Plants

Product:	No data available.
Components:	
Acetic acid	No data available.
Silver nitrate	No data available.

Toxicity to microorganisms

Product:	No data available.
Components:	
Acetic acid	No data available.
Silver nitrate	EC10 (Pseudomonas putida (bacteria), 16 h): < 0.1 mg/l (Information from IUCLID)

Persistence and Degradability

Biodegradation

Product:	No data available.
Components:	
Acetic acid	96 % (20 d) Detected in water. Experimental result, Key study
Silver nitrate	No data available.

BOD/COD Ratio

Product:	No data available.
Components:	
Acetic acid	No data available.

Silver nitrate No data available.

Bioaccumulative potential**Bioconcentration Factor (BCF)**

Product: No data available.

Components:

Acetic acid Various, Bioconcentration Factor (BCF): 3.16 Aquatic sediment QSAR, Key study

Silver nitrate Cyprinus carpio, Bioconcentration Factor (BCF): 70 Aquatic sediment Experimental result, Key study

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: Not applicable Mixture

Components:

Acetic acid Log Kow: -0.17

Log Kow: -0.17

Silver nitrate Log Kow: 0.2 (QSAR)

Mobility in soil:

Product No data available.

Components:

Acetic acid No data available.

Silver nitrate No data available.

Results of PBT and vPvB assessment:

Product This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

Acetic acid No data available.

Silver nitrate No data available.

Other adverse effects:**Other hazards**

Product: Very toxic to aquatic life with long lasting effects.

13. Disposal considerations

General information: Waste disposal should be in accordance with existing federal, state and local environmental control laws.

Disposal methods: Discharge, treatment, or disposal may be subject to national, state, or local laws. Do not allow to enter drains, sewers or watercourses.

Since emptied containers retain product residue, follow label warnings even after container is emptied.

Contaminated Packaging: Dispose in accordance with all applicable regulations.

14. Transport information

DOT

UN number or ID number	UN3082
UN Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.(Silver nitrate)
Transport Hazard Class(es)	
Class	9
Label(s)	9
Packing Group	III
Environmental Hazards	Yes
Special precautions for user	Not regulated if packaging <= 5L

IATA

UN number or ID number	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.(Silver nitrate)
Transport Hazard Class(es)	
Class	9
Label(s)	9MI (Miscellaneous)
Packing Group	III
Excepted quantity	E1
Environmental Hazards	Yes
Special precautions for user	SPECIAL PROVISION A197 if packaging <= 5L or <= 5kg
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number or ID number	UN3082
UN Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Silver nitrate)
Transport Hazard Class(es)	
Class	9
Label(s)	9
EmS No.	F-AS-F
Packing Group	III
Limited quantity	5.00L
Excepted quantity	E1
Environmental Hazards	Yes
Special precautions for user	CODE 2.10.2.7 if packaging <= 5L or <= 5kg

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

Not applicable for product as supplied.

15. Regulatory information**US Federal Regulations****TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):**Chemical Identity**

ACETIC ACID

SILVER NITRATE

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Skin Corrosion/Irritation, Serious Eye Damage/Eye Irritation

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances**US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting**

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 111 SOCM Intermediate or Final Volatile Organic Compounds (40 CFR 60.489):**Chemical Identity**

ACETIC ACID

Clean Air Act (CAA) Section 112, 1990 Amendments, Statutory Hazardous Air Pollutants:

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(i) High-Risk Hazardous Air Pollutants (40 CFR 63.74):

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**Chemical Identity**

ACETIC ACID

SILVER NITRATE

US State Regulations**US. California Proposition 65**

No ingredient requiring a warning under CA Prop 65.

US. Toxic Substances Control Act (TSCA)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substance Control Act (U.S, EPA TSCA) 8(b) active inventory.

16. Other information, including date of preparation or last revision

Issue Date: 03-04-2019



Product name: THIOTEST

SDS No.: 000001016849
Version: 1.3
Issue Date: 11-01-2023
Last revised date: 11-01-2023

Version #: 1.3

Further Information: This information is furnished without warranty, expressed or implied, and is believed to be accurate to the best knowledge of Agfa Corporation. The data on this SDS relates only to the specific material designated herein. Agfa Corporation assumes no legal responsibility for use or reliance upon these data.