

SECTION 1: Identification
1.1. Identification

Product form : Mixture
 Product name : ANG T0
 UN/ID No. : UN1993

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Special functional coating for electronics

1.3. Supplier

Supplier Address
 actnano Inc
 85 Bolton St
 Cambridge, MA 02140
 Tel: 877-655-8220
 Email: info@actnano.com

1.4. Emergency telephone number

Emergency number : 1-352-323-3500 (International)
 1-800-535-5053 (North America)

SECTION 2: Hazard(s) identification
2.1. Classification of the substance or mixture
Appearance

White/translucent

Physical state

Liquid

GHS US classification

Skin corrosion/irritation	Category 2
Specific target organ toxicity — Single exposure	Category 3
Aspiration hazard	Category 1
Flammable liquids	Category 2

2.2. GHS Label elements, including precautionary statements
GHS US labeling

Hazard pictograms :



Signal word :

Danger

Hazard statements :

Causes skin irritation
 May cause drowsiness or dizziness
 May be fatal if swallowed and enters airways
 Highly flammable liquid and vapor

Precautionary statements - Prevention :

Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Use explosion-proof equipment
 Keep cool

Precautionary statements - Response :

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse

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	If skin irritation occurs: Get medical advice/attention IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a poison center or doctor/physician if you feel unwell IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician Do NOT induce vomiting In case of fire: Use CO ₂ , dry chemical, or foam for extinction
Precautionary statements - Storage	Store locked up Store in a well-ventilated place. Keep container tightly closed
Precautionary statements - Disposal	Dispose of contents/container to an approved waste disposal plant

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	CAS No.	Weight %
Alkanes, C7-8-iso-	70024-92-9	69-71
Proprietary blend	Proprietary	29-31%

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

SECTION 4: First-aid measures

4.1. Description of first aid measures

Eye contact	: Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
Ingestion	: Immediately call a poison center or doctor/physician. Do NOT induce vomiting.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms	: Causes skin irritation. May cause drowsiness or dizziness. May be fatal if swallowed and enters airways
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4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician	: Treat symptomatically.
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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use CO ₂ , dry chemical, or foam for extinction.
Unsuitable extinguishing media	: Not determined.

5.2. Specific hazards arising from the chemical

Hazards	: Highly flammable liquid and vapor.
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5.3. Protective equipment and precautions for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	: Use personal protective equipment as required
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6.2. Environmental precautions

See Section 12 for additional Ecological Information.

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6.3. Methods and material for containment and cleaning up

- Methods for containment : Prevent further leakage or spillage if safe to do so.
Methods for clean-up : Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Advice on safe handling : Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing and eye/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Use explosion proof equipment. Keep cool.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a cool, well-ventilated place. Keep container tightly closed.
Incompatible materials : None known based on information supplied.

SECTION 8: Exposure controls/personal protection

8.1. Exposure Guidelines

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This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

8.2. Appropriate engineering controls

- Engineering Controls : Apply technical measures to comply with the occupational exposure limits.

8.3. Individual protection measures, such as personal protective equipment

- Eye/Face protection : Chemical goggles or safety glasses.
Skin and body protection : Impermeable protective gloves. Long sleeved protective clothing.
Respiratory protection : If exposure limits, are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.
General hygiene consideration : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
Appearance : White/translucent
Color : Colorless
Odor : Characteristic
Odor threshold : Not determined
pH : Not determined
Melting point/freezing point : Not determined
Boiling point : 93-104 °C / 199.4-219.2 °F
Flash point : -11 °C / 12.2 °F
Evaporation rate : Not determined
Flammability (solid, gas) : Liquid-Not applicable
Flammability limit in air : Not determined
Upper flammability of explosive limits : Not determined
Lower flammability of explosive limits : Not determined
Vapor pressure : Not determined
Vapor density : Not determined
Relative density : 0.78-0.79 @ 25 °C
Water solubility : Not determined
Solubility in other solvents : Not determined
Partition coefficient : Not determined

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Autoignition temperature	: Not determined
Decomposition temperature	: Not determined
Kinematic viscosity	: Not determined
Dynamic viscosity (at 5000 s ⁻¹)	: 4-6 cP @ 25 °C
Explosive properties	: Not determined
Oxidizing properties	: Not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

Not reactive under normal conditions.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

Keep out of reach of children.

10.5. Incompatible materials

None known based on information supplied

10.6. Hazardous decomposition products

None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Eye contact	: Avoid contact with eyes.
Skin contact	: Avoid contact with skin.
Inhalation	: Do not inhale.
Ingestion	: Do not ingest.

11.2. Component information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Proprietary component 1	> 24 g/kg (Rat > 17 g/kg (Rat))	> 2 g/kg (Rabbit)	-
Proprietary component 2	> 5000 mg/kg (Rat)	-	= 0.45 mg/L (Rat) 4 h

11.3. Symptoms related to the physical, chemical and toxicological characteristics

Symptoms : Please see section 4 of this SDS for symptoms.

11.4. Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	: Causes skin irritation.
Carcinogenicity	: Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
STOT – single exposure	: May cause drowsiness or dizziness.
Aspiration hazard	: May be fatal if swallowed and enters airways.

11.5. Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

Oral LD50	: 40,452.50 mg/kg
Dermal LD50	: 7,324.40 mg/kg

SECTION 12: Ecological information

12.1. Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2. Persistence and degradability

Not determined.

12.3. Bioaccumulation

There is no data for this product.

12.4. Mobility

Not determined.

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12.5. Other adverse effects

Not determined.

SECTION 13: Disposal considerations

13.1. Disposal methods

- Disposal of wastes : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Contaminated packaging : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

14.1. In accordance with DOT

- UN-No. : UN1993
Proper shipping name : Flammable liquids, n.o.s. (Alkanes, C7-8-iso-)
Hazard class : 3
Packing group : II

14.2. In accordance with IATA

- UN-No. : UN1993
Proper shipping name : Flammable liquids, n.o.s. (Alkanes, C7-8-iso-)
Transport hazard class(es) : 3
Packing group : II

14.3. In accordance with IMDG

- UN-No. : UN1993
Proper shipping name : Flammable liquids, n.o.s. (Alkanes, C7-8-iso-)
Hazard class : 3
Packing group : II

SECTION 15: Regulatory information

15.1. International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Isoalkanes C7-8	X	ACTIVE	X	X			X		X
Proprietary component 1	X	ACTIVE	X			X	X	X	X
Proprietary component 2	X	ACTIVE	X	X	X	X	X	X	X

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. US Federal regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

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15.3. US State regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

US State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations.

SECTION 16: Other information

<u>NFPA</u>	Health Hazards Not determined	Flammability Not determined	Instability Not determined	Special Hazards Not determined
<u>HMIS</u>	Health Hazards Not determined	Flammability Not determined	Physical hazards Not determined	Personal Protection Not determined

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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.