

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Name : AMTECH NC-559-V2 Tacky Flux
UFI : KMG0-X0RY-500K-JST9
Product code : 0018-TF

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Main use category : Industrial use
Industrial/Professional use spec : Industrial
For professional use only
Use of the substance/mixture : Bonding solder joints in production and repair of circuit boards

1.3. Details of the supplier of the safety data sheet

Manufacturer

INVENTEC PERFORMANCE CHEMICALS SAS
26 rue des coulons
P.O. Box BP 27
94363 BRY SUR MARNE
France
T +33 (0)1 43 98 75 00, F +33 (0) 1 48 81 24 40
ContactFDS@inventec.dehon.com

Other

INVENTEC Performance Chemicals USA, LLC
500 Main Street
CT 06417 Deep River, Connecticut
USA
T 860-526-8300, F 860-526-8243

1.4. Emergency telephone number

Emergency number : +33 (0) 1 72 11 00 03 - 24h/24 7j/7

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Irrit. 2 H315
Eye Irrit. 2 H319
Skin Sens. 1 H317
Repr. 1B H360

Full text of hazard classes, H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

GHS08

Signal word (CLP) :

Danger

Contains :

Tetraethylene glycol dimethyl ether; 2,4,7,9-Tetramethyldec-5-yne-4,7-diol

Hazard statements (CLP) :

H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H360 - May damage the unborn child..

AMTECH NC-559-V2 Tacky Flux

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Precautionary statements (CLP) : P201 - Obtain special instructions before use.
P261 - Avoid breathing spray, mist, fume, gas, dust, vapours.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0,1\%$ assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	Tetraethylene glycol dimethyl ether (143-24-8), N-methyl-2-pyrrolidone, 1-methyl-2-pyrrolidone (872-50-4)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	Tetraethylene glycol dimethyl ether (143-24-8), N-methyl-2-pyrrolidone, 1-methyl-2-pyrrolidone (872-50-4)

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Component	
Substance(s) not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605	Tetraethylene glycol dimethyl ether (143-24-8), N-methyl-2-pyrrolidone, 1-methyl-2-pyrrolidone (872-50-4)

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Tetrahydroxypropyl ethylenediamine	CAS-No.: 102-60-3 EC-No.: 203-041-4 REACH-no: 01-2119552434-41	10 – 20	Eye Irrit. 2, H319
Terpineol	CAS-No.: 8000-41-7 EC-No.: 232-268-1 REACH-no: 01-2119553062-49	5 – 10	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Tetraethylene glycol dimethyl ether substance listed on REACH Candidate List (Bis(2-(2-methoxyethoxy)ethyl)ether)	CAS-No.: 143-24-8 EC-No.: 205-594-7 REACH-no: 01-2119958965-16	1 – 5	Flam. Liq. Not classified Repr. 1B, H360
N-methyl-2-pyrrolidone, 1-methyl-2-pyrrolidone substance listed on REACH Candidate List (1-Methyl-2-pyrrolidone (NMP))	CAS-No.: 872-50-4 EC-No.: 212-828-1 EC Index-No.: 606-021-00-7 REACH-no: 01-2119472430-46	1 – 5	Repr. 1B, H360D Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315

AMTECH NC-559-V2 Tacky Flux

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2,4,7,9-Tetramethyldec-5-yne-4,7-diol	CAS-No.: 126-86-3 EC-No.: 204-809-1 REACH-no: 01-2119954390-39	1 – 5	Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Wash with plenty of water/... Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Consult an eye specialist.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: May damage the unborn child..
Symptoms/effects after inhalation	: May cause an allergic skin reaction.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam, Dry powder, Carbon dioxide, Water spray, Sand.
Unsuitable extinguishing media	: Strong water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Avoid contact with skin and eyes.
For non-emergency personnel	
Emergency procedures	: Evacuate the danger area. Evacuate unnecessary personnel. Evacuate area.
For emergency responders	
Protective equipment	: Equip cleanup crew with proper protection.

AMTECH NC-559-V2 Tacky Flux

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of solid materials or residues refer to section 13 : "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing spray, mist, fume, gas, dust, vapours. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

Hygiene measures : Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not drink, eat or smoke in the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use. Store in dry, cool, well-ventilated area. Keep only in original container.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:

Safety glasses with side shields

AMTECH NC-559-V2 Tacky Flux

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Chemically resistant protective gloves

Respiratory protection

Respiratory protection:

Wear appropriate mask

Environmental exposure controls

Other information:

Do not eat, drink or smoke during use. Safety shower. Eye fountain.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Colourless.
Appearance	: Paste.
Odour	: medium.
Odour threshold	: Not available
Melting point	: 100 °C
Freezing point	: Not available
Boiling point	: 230 °C
Flammability	: Non flammable
Explosive properties	: Not explosive material according to EC criteria.
Oxidising properties	: Non oxidizing material according to EC criteria.
Lower explosion limit	: Not applicable
Upper explosion limit	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: Not available
pH solution	: Not available
Viscosity, kinematic	: Not applicable
Solubility	: Insoluble in water. Soluble in: Alcohol, Isopropanol.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 1 kg/m ³
Relative density	: Not available
Relative vapour density at 20°C	: Not applicable
Particle size	: Not available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

AMTECH NC-559-V2 Tacky Flux

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

10.3. Possibility of hazardous reactions

Stable under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

Tetraethylene glycol dimethyl ether (143-24-8)

LD50 oral rat	3850 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 3640 - 4160
LD50 dermal rat	> 6900 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

2,4,7,9-Tetramethyldec-5-yne-4,7-diol (126-86-3)

LD50 oral rat	> 500 mg/kg bodyweight Animal: rat, Guideline: other:Guide to Precautionary Labeling of Hazardous Chemicals, Seventh Edition - 1970, published by the Manufacturing Chemist's Association
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Tetrahydroxypropyl ethylenediamine (102-60-3)

LD50 oral rat	2890 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: May damage the unborn child..
STOT-single exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met

N-methyl-2-pyrrolidone, 1-methyl-2-pyrrolidone (872-50-4)

STOT-single exposure	May cause respiratory irritation.
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STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met

AMTECH NC-559-V2 Tacky Flux

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

2,4,7,9-Tetramethyldec-5-yne-4,7-diol (126-86-3)

NOAEL (oral, rat, 90 days)	≈ 150 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)
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Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Tetraethylene glycol dimethyl ether (143-24-8)

LC50 - Fish [1]	> 5000 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	7467 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	8996 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	2814 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC (chronic)	320 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

2,4,7,9-Tetramethyldec-5-yne-4,7-diol (126-86-3)

LC50 - Fish [1]	42 mg/l Test organisms (species): Cyprinus carpio
EC50 - Crustacea [1]	91 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	15 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

Tetrahydroxypropyl ethylenediamine (102-60-3)

LC50 - Fish [1]	≈ 4600 mg/l Test organisms (species): Leuciscus idus
EC50 - Crustacea [1]	> 100 mg/l 48 Hours (Daphnia magna)
EC50 72h - Algae [1]	150.67 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
LOEC (chronic)	> 10 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	≥ 10 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

AMTECH NC-559-V2 Tacky Flux

Persistence and degradability	Not established.
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Tetraethylene glycol dimethyl ether (143-24-8)

Persistence and degradability	Rapidly degradable
Biodegradation	99 %

AMTECH NC-559-V2 Tacky Flux

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Terpineol (8000-41-7)	
Persistence and degradability	Rapidly degradable
2,4,7,9-Tetramethyldec-5-yne-4,7-diol (126-86-3)	
Persistence and degradability	Rapidly degradable
Tetrahydroxypropyl ethylenediamine (102-60-3)	
Persistence and degradability	Rapidly degradable
N-methyl-2-pyrrolidone, 1-methyl-2-pyrrolidone (872-50-4)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

AMTECH NC-559-V2 Tacky Flux	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	Tetraethylene glycol dimethyl ether (143-24-8), N-methyl-2-pyrrolidone, 1-methyl-2-pyrrolidone (872-50-4)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	Tetraethylene glycol dimethyl ether (143-24-8), N-methyl-2-pyrrolidone, 1-methyl-2-pyrrolidone (872-50-4)

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

AMTECH NC-559-V2 Tacky Flux	
Other information	Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal.
Ecological waste information	: Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

ADR	IMDG	IATA
14.1. UN number or ID number		
Not regulated for transport		

AMTECH NC-559-V2 Tacky Flux

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

ADR	IMDG	IATA
14.2. UN proper shipping name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
Not regulated	Not regulated	Not regulated
No supplementary information available		

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains substance(s) listed on the REACH Candidate List in concentrations $\geq 0.1\%$ or SCL: Bis(2-(2-methoxyethoxy)ethyl)ether (EC 205-594-7, CAS 143-24-8), 1-Methyl-2-pyrrolidone (NMP) (EC 212-828-1, CAS 872-50-4)

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Explosives Precursors Regulation (EU 2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

AMTECH NC-559-V2 Tacky Flux

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Drug Precursors Regulation (EC 273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes		
Section	Changed item	Comments
1.1	UFI	Added

Data sources : Supplier's safety documents.
Other information : None.

Full text of H- and EUH-statements:	
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. Not classified	Flammable liquids Not classified
Repr. 1B	Reproductive toxicity, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H360	May damage the unborn child..
H360D	May damage the unborn child.
H412	Harmful to aquatic life with long lasting effects.

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.