

Spetec AG100

Three-component, water-swelling acrylate hydrogel.

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

1.1. Product identifier

Product name: **Spetec AG100**

Type of product: Mixture.

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

Identified uses: Monomer for polymerization.

Uses advised against: All non-monomeric uses and all uses resulting in aerosols.

1.3. Details of the supplier of the safety data sheet

Company: Alchemy-Spetec
4508 Bibb Blvd
Tucker, GA 30084
United States

Telephone: 404-618-0438

Fax: 678-805-4783

1.4. Emergency telephone number

24-hour emergency number: CHEMTREC 1-800-424-9300 / +1 703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to paragraph (d) of 29 CFR 1910.1200:

Muta. 1B;H340, Carc. 1B;H350, Repr. 2;H361, STOT RE 2;H373

2.2. Label elements

Labelling according to paragraph (f) of 29 CFR 1910.1200:

Hazard symbol(s):



Signal word: Danger

Hazard statement(s): H340 - May cause genetic defects
H350 - May cause cancer
H361 - Suspected of damaging fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statement(s): P202 - Do not handle until all safety precautions have been read and understood
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards

None.

For explanation of abbreviations see Section 16.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable, this product is a mixture.

3.2. Mixtures

This product is a mixture.

Hazardous components

N,N'-methylenediacrylamide

Concentration/-range: <= 2.5%

CAS Number: 110-26-9

Classification according to paragraph (d) of 29 CFR 1910.1200:

Acute Tox. 3;H301, Acute Tox. 4;H312, Acute Tox. 4;H332, Muta. 1B;H340, Carc. 1B;H350, Repr. 2;H361, STOT RE 1;H372

For explanation of abbreviations see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If signs/symptoms continue, get medical attention.

Skin contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

Eye contact:

In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention immediately.

Ingestion:

If swallowed, and the victim is conscious and alert, induce vomiting immediately, as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

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

May cause eye irritation with susceptible persons. May cause cancer.

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

None.

Other information:

None.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media:

None.

5.2. Special hazards arising from the substance or mixture*Hazardous decomposition products:*

Thermal decomposition may produce: nitrogen oxides (NO_x), carbon oxides (CO_x). Hydrogen cyanide (hydrocyanic acid) may be produced in the event of combustion in an oxygen deficient atmosphere.

5.3. Advice for fire-fighters*Protective measures:*

Wear full protective clothing and self-contained breathing apparatus.

Other information:

Cool tanks with water to avoid polymerization.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures***Personal precautions:*

No action should be taken involving any personal risk or without suitable training. Stay on upwind side.

Protective equipment:

Wear adequate personal protective equipment (see Section 8 Exposure Controls/Personal Protection).

Emergency procedures:

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Prevent further leakage or spillage if safe to do so.

6.2. Environmental precautions

Do not allow contact with soil, surface or ground water.

6.3. Methods and material for containment and cleaning up

Do not flush with water.

Small spills:

Cover and soak up with a suitable absorbent material, e.g. diatomite. Keep in suitable, closed containers for disposal.

Large spills:

Do not allow solution to dry. Contain with dike. Pump into suitable and properly labelled containers. One-to-one (volume) dilution is suitable to reduce reactivity.

Residues:

Flush away with large quantities of water.

6.4. Reference to other sections

Section 7 - Handling and Storage, Section 8 - Exposure Controls/ Personal Protection, Section 13 - Disposal considerations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid creating aerosols. Use only with adequate ventilation or personal protection. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Avoid acids, bases, oxidising agents, reducing agents, initiators which may cause polymerisation.

7.3. Specific end use(s)

Monomer for polymerisation.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

None known.

8.2. Exposure controls

Appropriate engineering controls:

Provide extraction ventilation at points where emissions occur. The use of mechanical dilution ventilation is recommended whenever this product is used in confined space, is heated above ambient temperatures or otherwise to maintain ambient concentration below the recommended threshold exposure limits.

Individual protection measures, such as personal protective equipment:

a) Eye/face protection:

Splash glasses for normal handling conditions.

b) Skin protection:

i) Hand protection: Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the break through time measured according to EN 374, due to the numerous outside influences (e.g. temperature). The obtained break through times according to EN 374 Part III are not measured under normal operating conditions. Therefore a maximum usage time of 50% of the break through time is recommended

ii) Other: Chemical resistant apron or protective suit if splashing or repeated contact with solution is likely.

c) Respiratory protection:

No personal respiratory protective equipment normally required. Where concentrations in air may exceed the limits given in this section, it is recommended to use half face filter mask to protect from overexposure by inhalation.

d) Additional advice:

Do not wear leather shoes. Do not carry food, drink or cigarettes in areas where this product is handled, stored or processed. Wash hands before breaks and immediately after handling the product.

Environmental exposure controls:

Avoid/prevent all emissions through measures such as recycling to process, treatment of emissions or incineration.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

a) Appearance:	Liquid, Orange.
b) Odour:	Slight.
c) Odour Threshold:	Not applicable.
d) pH:	6 - 8
e) Melting point/freezing point:	< 0°C
f) Initial boiling point and boiling range:	> 100°C
g) Flash point:	Does not flash.
h) Evaporation rate:	No data available.
i) Flammability (solid, gas):	Not applicable.
j) Upper/lower flammability or explosive limits:	Not expected to create explosive atmospheres.
k) Vapour pressure:	2.3 kPa @ 20°C
l) Vapour density:	Equivalent to water (~0.8 g/l).
m) Relative density:	1.1 - 1.3
n) Solubility(ies):	Completely miscible.
o) Partition coefficient:	No data available.
p) Autoignition temperature:	No data available.
q) Decomposition temperature:	No data available.
r) Viscosity:	See Technical Bulletin.
s) Explosive properties:	Not expected to be explosive based on the chemical structure.
t) Oxidizing properties:	Not expected to be oxidising based on the chemical structure.

9.2. Other information

None.

SECTION 10: Stability and reactivity**10.1. Reactivity**

Stable under recommended storage conditions. Polymerization is initiated by: free radicals, peroxides.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4. Conditions to avoid

Avoid extremes of temperature.

10.5. Incompatible materials

Avoid acids, bases, oxidising agents, reducing agents, initiators which may cause polymerisation.

10.6. Hazardous decomposition products

Thermal decomposition may produce: nitrogen oxides (NO_x), carbon oxides (CO_x). Hydrogen cyanide (hydrocyanic acid).

SECTION 11: Toxicological information**11.1. Information on toxicological effects**Information on the product as supplied:

Acute oral toxicity:	LD50/oral/rat = 2000 - 5000 mg/kg. (Estimated)
Acute dermal toxicity:	LD50/dermal/rat > 5000 mg/kg. (Estimated)
Acute inhalation toxicity:	The product is not expected to be toxic by inhalation.
Skin corrosion/irritation:	Not irritating.
Serious eye damage/eye irritation:	May cause slight eye irritation.
Respiratory/skin sensitisation:	The product is not expected to be sensitizing.
Mutagenicity:	Contains a known or suspected mutagen.
Carcinogenicity:	Contains a known or suspected carcinogen.
Reproductive toxicity:	Contains a known or suspected reproductive toxin.
STOT - Single exposure:	No known effects.
STOT - Repeated exposure:	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard:	No hazards resulting from the material as supplied.

Relevant information on the hazardous components:N,N'-methylenediacrylamide

Acute oral toxicity:	LD50/oral/rat = 50 - 300 mg/kg. (OECD 423)
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Acute dermal toxicity:	LD50/dermal/rabbit = 1141 mg/kg. (OECD 402) (Based on results obtained from tests on analogous products)
Acute inhalation toxicity:	LC0/inhalation/1 hours/rat = 12.1 mg/L (OECD 433) (Based on results obtained from tests on analogous products) LC0/inhalation/6 hours/rat > 5.6 ppm (Based on results obtained from tests on analogous products)
Acute inhalation toxicity:	LC0/inhalation/1 hours/rat = 12.1 mg/L (OECD 433) (Based on results obtained from tests on analogous products) LC0/inhalation/6 hours/rat > 5.6 ppm (Based on results obtained from tests on analogous products)
Skin corrosion/irritation:	Not irritating. (OECD 439)
Serious eye damage/eye irritation:	Not irritating. (OECD 437)
Respiratory/skin sensitisation:	Not sensitizing. (OECD 442 B)
Mutagenicity:	Negative in the Ames Test (OECD 471) Negative in the In vitro Mammalian Cell Gene Mutation Test (OECD 476). (Based on results obtained from tests on analogous products) Positive in the In Vitro Mammalian Chromosome Aberration Test (OECD 473). (Based on results obtained from tests on analogous products) Positive in the Rodent Dominant Lethal Test (OECD 478). (Based on results obtained from tests on analogous products)
Carcinogenicity:	Carcinogenicity study in rat: NOAEL = 0.5 mg/kg/day (EPA OPP 83-2) (Based on results obtained from tests on analogous products)
Reproductive toxicity:	Two-Generation Reproduction Toxicity (OECD 416) - NOAEL/rat = 2 mg/kg/day (Based on results obtained from tests on analogous products) Prenatal Development Toxicity Study (OECD 414) - NOAEL/Maternal toxicity/rat = 2.5 mg/kg/day - NOAEL/Developmental toxicity/rat = 15 mg/kg/day (Based on results obtained from tests on analogous products)

STOT - Single exposure:	No known effects.
STOT - Repeated exposure:	Causes neurotoxicity of the peripheral nervous system. NOAEL/oral/rat/730 days = 0.5 mg/kg/day (OECD 453)
Aspiration hazard:	No known effects.

SECTION 12: Ecological information

12.1. Toxicity

Information on the product as supplied:

Acute toxicity to fish:	LC50/Danio rerio/96 hours > 100 mg/L (Estimated)
Acute toxicity to invertebrates:	EC50/Daphnia magna/48 hours > 100 mg/L. (Estimated)
Acute toxicity to algae:	IC50/Pseudokirchneriella subcapitata/72 hours = 1 - 10 mg/L. (Estimated)
Chronic toxicity to fish:	No data available.
Chronic toxicity to invertebrates:	No data available.
Toxicity to microorganisms:	No data available.
Effects on terrestrial organisms:	No data available.
Sediment toxicity:	No data available.

Relevant information on the hazardous components:

N,N'-methylenediacrylamide

Acute toxicity to fish:	NOEC/Danio rerio/96 hours \geq 100 mg/L (OECD 203)
Acute toxicity to invertebrates:	NOEC/Daphnia magna/48 hours \geq 100 mg/L (OECD 202)
Acute toxicity to algae:	NOEC/Pseudokirchneriella subcapitata/72 hours \geq 100 mg/L (OECD 201)
Chronic toxicity to fish:	No data available.
Chronic toxicity to invertebrates:	No data available.
Toxicity to microorganisms:	No data available.

Effects on terrestrial organisms: Exposure to soil is unlikely.

Sediment toxicity: Exposure to sediment is unlikely.

12.2. Persistence and degradability

Information on the product as supplied:

Degradation: Readily biodegradable.

Hydrolysis: No data available.

Photolysis: No data available.

Relevant information on the hazardous components:

N,N'-methylenediacrylamide

Degradation: Not readily biodegradable. 2.1% / 28 days (OECD 301 F)

Hydrolysis: Does not hydrolyse.

Photolysis: No data available.

12.3. Bioaccumulative potential

Information on the product as supplied:

The product is not expected to bioaccumulate.

Partition co-efficient (Log Pow): No data available.

Bioconcentration factor (BCF): No data available.

Relevant information on the hazardous components:

N,N'-methylenediacrylamide

Partition co-efficient (Log Pow): -0.08 @ 24°C, pH 7.87 - 7.98 (OECD 107)

Bioconcentration factor (BCF): ~3

12.4. Mobility in soil

Information on the product as supplied:

Exposure to soil is not to be expected.

Koc: No data available.

Relevant information on the hazardous components:

N,N'-methylenediacrylamide

Koc: <= 10

12.5. Other adverse effects

None known.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Waste from residues/unused products:**

Whenever possible, send residues and unused product to the production process. In case of contamination, polymerise the product and then send the polymer to landfill or incineration.

Contaminated packaging:

Completely drain containers and retain product residues. Rinse empty containers with water and use the rinse-water to prepare the working solution. Dispose of empty containers in accordance with regulations.

Recycling:

The product and its packaging are not suitable for recycling.

SECTION 14: Transport information**Land transport (DOT)**

Not classified.

Sea transport (IMDG)

Not classified.

Air transport (IATA)

Not classified.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Information on the product as supplied:****TSCA Chemical Substances Inventory:**

All components of this product are either listed on the inventory or are exempt from listing.

US SARA Reporting Requirements:**SARA (Section 311/312) hazard class:**

Chronic.

SARA Title III Sections:

Section 302 (TPQ) - Reportable Quantity:
Not concerned.

Section 304 - Reportable Quantity:
Not concerned.

Section 313 (De minimis concentration):
Not concerned.

Clean Water Act

Section 311 Hazardous Substances (40 CFR 117.3) - Reportable Quantity:
Not concerned.

Clean Air Act

Section 112(r) Accidental release prevention requirements (40 CFR 68) - Reportable Quantity:
Not concerned.

CERCLA

Hazardous Substances List (40 CFR 302.4) - Reportable Quantity:
Not concerned.

RCRA status:

Not RCRA hazardous.

California Proposition 65 Information:

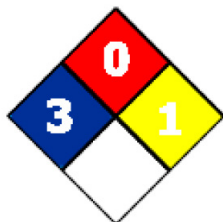
Not concerned.

SECTION 16: Other information

NFPA and HMIS Ratings:

NFPA:

Health:	2
Flammability:	1
Instability:	2



SAFETY DATASHEET

HMIS:

Health: *2

Flammability: 1

Physical Hazard: 1

PPE Code: D q

