

SAFETY DATA SHEET

AKL99 - Actin protein (>99% pure), rabbit skeletal muscle

Revision: 7 September 2026 | Version 1.0 | Supersedes MSDS dated 20 April 2018

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier	AKL99; Actin protein (>99% pure), rabbit skeletal muscle. No UFI assigned/required.
1.2 Relevant identified uses	Laboratory reagent for in-vitro research. Uses advised against: human or veterinary diagnostic, therapeutic, food, household or other non-research use.
1.3 Manufacturer	Cytoskeleton, Inc., 1830 S. Acoma St., Denver, CO 80223, USA; Tel. +1 303-322-2254.
EU/German supplier	Tebu-bio GmbH germany@tebubio.com , (069) 801013-0
1.4 Emergency telephone	INFOTRAC (source MSDS): USA/Canada 1-800-535-5053; outside USA/Canada +1 352-323-3500 (collect calls accepted).

2. Hazards identification

2.1 Classification of the substance or mixture

The mixture is not classified as hazardous under Regulation (EC) No 1272/2008 (CLP).

2.2 Label elements	Hazard pictograms: none. Signal word: none. Hazard statements: none. Precautionary statements: none assigned by the source classification.
2.3 Other hazards	The lyophilised powder may generate airborne dust causing mechanical irritation. PBT/vPvB assessment: no assessment data available. Endocrine-disrupting properties: no assessment data available. Nanoform: not identified in the source information.

3. Composition/information on ingredients

3.2 Mixture.

Component / Bestandteil	CAS	EC / EG	Content / Gehalt	CLP status / Status
Rabbit skeletal muscle actin / Actin aus Kaninchen-Skelettmuskel	9064-37-3	None / keine	>95%	Not classified in source / laut Quelle nicht eingestuft
Sucrose / Saccharose	57-50-1	200-334-9	<1%	Not classified / nicht eingestuft
Tris base / Tris(hydroxymethyl)aminomethan	77-86-1	201-064-4	<1%	Supplier confirmation required / Lieferantenbestätigung erforderlich
Dextran / Dextran	9004-54-0	232-677-5	<1%	Not classified in source / laut Quelle nicht eingestuft
Calcium chloride dihydrate / Calciumchlorid-Dihydrat	10035-04-8	233-140-8	<1%	Supplier confirmation required / Lieferantenbestätigung erforderlich
Adenosine 5-triphosphate disodium salt / Adenosin-5-triphosphat-Dinatriumsalz	42373-41-1	Not listed / nicht gelistet	<1%	Supplier confirmation required / Lieferantenbestätigung erforderlich

4. First-aid measures

4.1 Inhalation	Move to fresh air. If breathing is difficult or symptoms persist, seek medical advice. If not breathing, provide resuscitation by trained personnel and call emergency services.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. Seek medical advice if irritation persists.
Eye contact	Rinse cautiously with water for at least 15 minutes, removing contact lenses if easy. Seek medical advice if irritation persists.
Ingestion	Rinse mouth. Do not induce vomiting unless directed by medical personnel. Seek medical advice if unwell. Never give anything by mouth to an unconscious person.
4.2 Symptoms/effects	Dust may cause mechanical irritation of eyes, skin, nose and respiratory tract. No delayed effects are known from the available data.

4.3 Immediate care Treat symptomatically. No specific antidote identified.

5. Firefighting measures

5.1 Extinguishing media Use water spray, alcohol-resistant foam, dry powder or carbon dioxide as appropriate for the surrounding fire. No unsuitable media identified.

5.2 Special hazards Product is reported as not flammable or combustible. Thermal decomposition may produce irritating or harmful fumes; composition not determined.

5.3 Advice for firefighters Wear self-contained breathing apparatus and protective clothing for surrounding fire. Avoid contact with skin and eyes.

6. Accidental release measures

6.1 Personal precautions Restrict access. Avoid dust formation and inhalation. Wear gloves, eye protection and suitable protective clothing; use respiratory protection where ventilation is inadequate or dust is generated.

6.2 Environmental precautions Prevent release to drains, surface water, groundwater and soil. Do not flush concentrated material to sewer.

6.3 Cleanup For dry product, carefully sweep or vacuum with a HEPA-filtered unit without generating dust; place in a labelled closed container. For wetted material, absorb with inert material. Clean residue with water where permitted.

6.4 Reference See Sections 8 and 13.

7. Handling and storage

7.1 Safe handling Use with adequate ventilation. Avoid creating or breathing dust and avoid eye/skin contact. Keep away from food and drink. Wash hands after handling. Do not reuse the container.

7.2 Storage Store tightly closed, dry/desiccated at 2-8 °C. Protect from contamination. Keep only in a suitably labelled container. Incompatible with strong oxidising agents.

7.3 Specific end use Laboratory research reagent. Follow institutional laboratory safety procedures.

8. Exposure controls/personal protection

8.1 Control parameters No occupational exposure limit values exist.

8.2 Engineering controls Use local exhaust or enclosure where dust may be generated. Provide eyewash access.

Eye/face protection Safety glasses with side shields; tightly fitting goggles where dust exposure is possible (EN 166 or equivalent).

Hand protection Protective gloves selected after workplace risk assessment. Confirm material and breakthrough time with the glove supplier (EN ISO 374 where applicable).

Skin/body protection Laboratory coat or protective clothing appropriate to the task.

Respiratory protection Normally not required with effective controls. If dust cannot be controlled, use a suitable particulate respirator selected under the workplace assessment (e.g. EN 149 P1/P2 as appropriate).

Environmental controls Prevent uncontrolled environmental release.

9. Physical and chemical properties

9.1 Physical state Solid, lyophilised powder

Colour White

Odour / odour threshold None

Melting/freezing point No data available

Boiling point/range Not applicable to solid / no data

Flammability Reported not flammable or combustible

Explosive limits No data available

Flash point	Not applicable / no data
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	No data available
Kinematic viscosity	Not applicable to solid
Solubility	Fully miscible/soluble in water per source
Partition coefficient	No data available
Vapour pressure / density	Not applicable or no data
Relative density	No data available
Particle characteristics	No data available; lyophilised powder
9.2 Other information	Not reported as explosive. No other physical hazard data available.

10. Stability and reactivity

10.1 Reactivity	No specific test data available.
10.2 Chemical stability	Stable under recommended storage conditions according to the source.
10.3 Hazardous reactions	No known hazardous reactions under recommended conditions; no test data available.
10.4 Conditions to avoid	Moisture, contamination, dust formation and conditions outside recommended storage.
10.5 Incompatible materials	Strong oxidising agents.
10.6 Decomposition products	Not determined. Irritating or harmful fumes may form in a fire.

11. Toxicological information

11.1 Acute toxicity	No adequate mixture data available; classification cannot be independently assessed from the source.
Skin corrosion/irritation	No adequate data. Dust may cause mechanical irritation.
Serious eye damage/irritation	No adequate data. Dust may cause mechanical irritation.
Respiratory/skin sensitisation	No data available.
Mutagenicity	No data available.
Carcinogenicity	No data available for the mixture. No component at $\geq 0.1\%$ was identified by IARC, ACGIH, NTP or OSHA.
Reproductive toxicity	No data available.
STOT single/repeated exposure	No data available.
Aspiration hazard	Not applicable to a solid powder on available information.
Likely routes/symptoms	Inhalation of dust and contact with eyes or skin may cause mechanical irritation. Ingestion effects unknown.
11.2 Endocrine-disrupting properties	No assessment data available.
Other information	No additional data available.

12. Ecological information

12.1 Toxicity	No ecological test data available for the mixture.
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12.2 Persistence/degradability	No data available.
12.3 Bioaccumulative potential	No data available.
12.4 Mobility in soil	No data available.
12.5 PBT/vPvB assessment	No assessment data available.
12.6 Endocrine disruption	No assessment data available.
12.7 Other adverse effects	No data available. Avoid uncontrolled environmental release.

13. Disposal considerations

13.1 Dispose of product, solutions and contaminated packaging through an authorised waste contractor in accordance with applicable German federal, Land and local requirements. Do not discharge to drains. Waste code EWC/AVV code is 16 05 09 – Non-hazardous chemical / laboratory waste. Do not reuse packaging.

14. Transport information

14.1 UN number	Not regulated as dangerous goods on source information.
14.2 UN proper shipping name	Not applicable.
14.3 Transport hazard class(es)	Not applicable.
14.4 Packing group	Not applicable.
14.5 Environmental hazards	Not identified as marine pollutant/environmentally hazardous for transport.
14.6 Special precautions	Protect from moisture and physical damage; avoid dust release.
14.7 Maritime transport in bulk	Not intended for bulk transport under IMO instruments.

15. Regulatory information

15.1 Regulations	Prepared in the structure of REACH Regulation (EC) No 1907/2006, Annex II as amended by Regulation (EU) 2020/878, and with reference to CLP Regulation (EC) No 1272/2008.
15.2 Chemical safety assessment	No chemical safety assessment information was provided.

16. Other information

Revision scope: converted the 2018 MSDS into the REACH Annex II / Regulation (EU) 2020/878 subsection structure; removed US-only rating content from the main hazard presentation; added Germany/EU regulatory fields. No new toxicological or ecotoxicological test data were supplied.

Abbreviations: AGW = Arbeitsplatzgrenzwert; CLP = Classification, Labelling and Packaging; EEA = European Economic Area; EWC = European Waste Catalogue; PBT = persistent, bioaccumulative and toxic; SDS = safety data sheet; STOT = specific target organ toxicity; UFI = unique formula identifier; vPvB = very persistent and very bioaccumulative.

Sources: Cytoskeleton AKL99 MSDS, revised 20 April 2018; Cytoskeleton AKL99 product page; Regulation (EC) No 1907/2006 (REACH), Article 31 and Annex II; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 (CLP); German Hazardous Substances Ordinance (GefStoffV), section 5.