

Safety Data Sheet

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Version 5

1. PRODUCT AND COMPANY IDENTIFICATION

Product name A431 whole cell lysate

Recommended use For research use only

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2. HAZARDS IDENTIFICATION

GHS - Classification

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 2
Acute inhalation toxicity - vapor	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Reproductive toxicity	Category 1A
Chronic aquatic toxicity	Category 2
Ozone	Not applicable

GHS Label elements, including precautionary statements



**Signal Word**

Danger

Hazard statements

H310 - Fatal in contact with skin
H318 - Causes serious eye damage
H302 - Harmful if swallowed
H360 - May damage fertility or the unborn child
H317 - May cause an allergic skin reaction
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P281 - Use personal protective equipment as required
P280 - Wear protective gloves/ eye protection/ face protection
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
P270 - Do not eat, drink or smoke when using this product
P262 - Do not get in eyes, on skin, or on clothing
P264 - Wash face, hands and any exposed skin thoroughly after handling
P361 - Remove/ Take off immediately all contaminated clothing
P363 - Wash contaminated clothing before reuse
P272 - Contaminated work clothing should not be allowed out of the workplace
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water
P310 - Immediately call a POISON CENTER or doctor/ physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P273 - Avoid release to the environment
P391 - Collect spillage
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	CAS-No	Weight %	Classification (Reg. 1272/2008)
Beta mercaptoethanol	60-24-2	3-7	STOT RE 2 (H373) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Repr. 2 (H361) Acute Tox. 3 (H301) Acute Tox. 1 (H310) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

General advice	Immediate medical attention is required. If symptoms persist, call a physician.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.
Skin contact	Immediate medical attention is required. Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.
Inhalation	Move to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is required.
Ingestion	Rinse mouth. If symptoms persist, call a physician. Do NOT induce vomiting. Immediate medical attention is required.
Notes to physician	May cause sensitization of susceptible persons. Treat symptomatically.
Protection of first-aiders	Use personal protective equipment. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. FIRE-FIGHTING MEASURES

Flammable properties	Not flammable.
Flash point	not determined
Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Explosion Data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
Specific hazards arising from the chemical	Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact.

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental precautions Prevent further leakage or spillage if safe to do so. Try to prevent the material from entering drains or water courses.

Methods for containment Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal. Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Advice on safe handling Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Do not breathe vapors or spray mist. Use only in area provided with appropriate exhaust ventilation.

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering measures Showers
Eyewash stations
Ventilation systems

Personal protective equipment

Eye/face protection Tightly fitting safety goggles. Face-shield.

Skin and body protection Long sleeved clothing. Protective gloves.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	No information available.	Odor	No information available.
Odor Threshold	No information available	Physical State @20°C	Liquid
pH			
Flash point	No information available	Autoignition temperature	No information available
Decomposition temperature	No information available	Boiling point/boiling range	No information available
Melting point/range	No information available		
		Flammability Limits in Air	No information available
Explosion limits	No information available		
		solubility	No information available.
Specific Gravity	No data available	Vapor Pressure @20°C (kPa)	No information available
Evaporation rate	No information available	VOC Content(%)	Not applicable
Vapor density	No data available		

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Incompatible products	None known based on information supplied.
Conditions to avoid	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.
Hazardous polymerization	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information	Corrosive to skin, eyes and/or respiratory tract. May cause sensitization of susceptible persons Harmful if swallowed Toxic in contact with skin Very toxic in contact with skin
Inhalation	Corrosive by inhalation Causes burns
Eye contact	Causes burns Corrosive to eyes
Skin contact	Avoid contact with skin Very toxic in contact with skin Corrosive Causes burns
Ingestion	Causes burns Harmful if swallowed

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Beta mercaptoethanol	244 mg/kg (Rat)	150 µL/kg (Rabbit)	

Chronic toxicity

Chronic toxicity	Repeated contact may cause allergic reactions in very susceptible persons Avoid repeated exposure
Sensitization	As a precaution the product should be treated as a sensitizer.
Reproductive toxicity	Product is or contains a chemical which is a known or suspected reproductive hazard
Developmental Toxicity	Contains ingredients that have suspected developmental hazards Possible risk of harm to the unborn child May cause birth defects
Target Organ Effects	None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Chemical Name	log Pow
Beta mercaptoethanol	-0.056

13. DISPOSAL CONSIDERATIONS

Waste disposal methods	Dispose of in accordance with local regulations.
Contaminated packaging	Do not re-use empty containers.

14. TRANSPORT INFORMATION

<u>DOT</u>	Not dangerous goods
<u>IATA</u>	Not dangerous goods
<u>ADR</u>	Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations

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.

SARA 311/312 Hazard Categories

Acute Health Hazard	yes
Chronic Health Hazard	no
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

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).

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). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Beta mercaptoethanol	X	X	X		

International Regulations

WHMIS Note:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION**Full text of H-Statements referred to under sections 2 and 3**

H373 - May cause damage to organs through prolonged or repeated exposure if inhaled H315 - Causes skin irritation H318 - Causes serious eye damage H317 - May cause an allergic skin reaction H361 - Suspected of damaging fertility or the unborn child if inhaled H301 - Toxic if swallowed H310 - Fatal in contact with skin H331 - Toxic if inhaled H400 - Very toxic to aquatic life H411 - Toxic to aquatic life with long lasting effects

Hazard statements

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Disclaimer

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.

End of MSDS