

SDS DATE: May 29, 2023

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Acetate Assay
PRODUCT CODES: Cat# MA-0130
RESTRICTIONS ON USE: For laboratory research purposes only. Not for drug or household use.
MANUFACTURER: AkrivisBio, Inc.
ADDRESS: 48511 Warm Springs Blvd., Suite 213, Fremont, CA 94539
EMERGENCY PHONE: 408-739-9315
OTHER CALLS:
FAX PHONE:
EMAIL: sds@akrivisbio.com

SECTION 2: HAZARDS IDENTIFICATION

Component	Description	Volume	Safety Information
Assay Buffer	Proprietary (contains Tween 20)	27 ml	See below
Acetate Kinase/Hexokinase	Lyophilized	-	No hazards
ATP	Lyophilized	-	No hazards
Glucose	Lyophilized	-	No hazards
NAD/Tetrazolium Mix	Lyophilized (Contains NAD and WST-8)	-	See Below
Acetate Standard	Lyophilized	-	No hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	EC.No.	Molecular weight	Chemical Formula	Concentration
Tween 20	9005-64-5	500-018-3	1228	C ₆₈ H ₁₁₄ O ₂₆	<1%
NAD	20111-18-6	--	685.41	C ₂₁ H ₂₆ N ₇ NaO ₁₄ P ₂	<92%
WST-8	193149-74-5	693-016-8	600.5	C ₂₀ H ₁₃ N ₆ O ₁₁ S ₂ • Na	<9%

NAD(Beta-Nicotinamide Adenine DiNucleotide Sodium Salt):

Emergency Overview:

GHS Classification: Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

GHS Label elements, including precautionary statements

Pictogram:



Signal word:

Warning

Hazard statement(s):

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statement(s):

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
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 lens] if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell
P321 Specific treatment (see on this label).
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/ international regulations.

HMIS Classification

Health hazard: 2

Flammability: 0

Physical hazards: 0

NFPA Rating

Health Hazard: 2

Fire: 0

Reactivity Hazard: 0

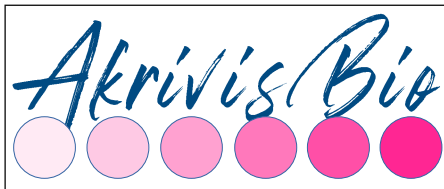
Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Skin: Harmful if absorbed through skin. May cause skin irritation.

Eyes: Cause eye irritation.

Ingestion: Harmful if swallowed.



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WST-8:

Emergency Overview:

GHS Classification: H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

GHS Label elements, including precautionary statements

Pictogram:



Signal word:

Danger

Hazard statement(s):

H314 Causes severe skin burns and eye damage

Precautionary statement(s):

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection
If swallowed: Rinse mouth. Do NOT induce vomiting.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
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 lens] if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
Wash contaminated clothing before reuse.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/ international regulations.

HMIS Classification

Health hazard: *3

Flammability: 0

Physical hazards:

NFPA Rating

Health Hazard: 3

Fire: 0

Reactivity Hazard: 0

SECTION 4: FIRST AID MEASURES

NAD(Beta-Nicotinamide Adenine DiNucleotide Sodium Salt):

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact: Wash off with soap and plenty of water.

In case of eye contact: Flush eyes with water as a precaution.

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water.

WST-8:

General advice: Immediately remove any clothing soiled by the product

If inhaled: In case of unconsciousness place patient stably in side position for transportation

In case of skin contact: : Immediately wash with water and soap and rinse thoroughly.

In case of eye contact: : Rinse opened eye for several minutes under running water. Then consult a doctor

If swallowed: Drink copious amounts of water and provide fresh air. Immediately call a doctor

Most important symptoms and effects, both acute and delayed: May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.

SECTION 5: FIRE-FIGHTING MEASURES

NAD(Beta-Nicotinamide Adenine DiNucleotide Sodium Salt):

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire fighters: Wear self-contained breathing apparatus if necessary.

Hazardous combustion products: Hazardous decomposition products formed under fire conditions— see section 10

WST-8:

Suitable extinguishing media: Use firefighting measures that suit the environment. A solid water stream may be inefficient.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products: No further relevant information available

SECTION 6: ACCIDENTAL RELEASE MEASURES

NAD(Beta-Nicotinamide Adenine DiNucleotide Sodium Salt):

Personal precautions: Avoid dust formation. Avoid breathing vapors, mist, gas, or dust.

Environmental precautions: Do not let product enter drains.

Methods for cleaning up: Sweep up and shovel. Keep in suitable, closed containers for disposal.

WST-8:

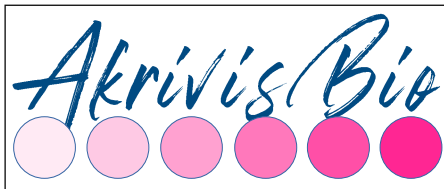
Personal precautions: Wear protective equipment. Keep unprotected persons away

Environmental precautions: Do not allow to enter sewers/ surface or ground water.

Methods for cleaning up: Use neutralizing agent. Dispose contaminated material as waste according to section 13. Ensure adequate ventilation.

SECTION 7: HANDLING AND STORAGE

NAD(Beta-Nicotinamide Adenine DiNucleotide Sodium Salt):



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Precautions for safe handling: Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: -20 °C.

WST-8:

Precautions for safe handling: Thorough dedusting.

Conditions for safe storage: Keep container tightly closed. Store in accordance with information listed on the product insert.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

NAD(Beta-Nicotinamide Adenine DiNucleotide Sodium Salt):

Personal protective equipment

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substance, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

General industrial hygiene practice.

WST-8:

Control parameters

Components with limit values that require monitoring at the workplace:

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

Exposure controls

Personal protective equipment

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Control of environmental exposure

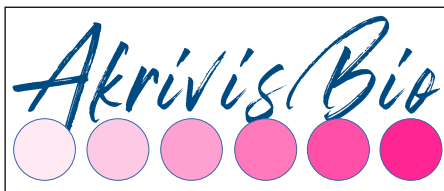
Do not let product enter drains. Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes. Avoid contact with the eyes and skin

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	NAD	WST-8
Appearance:	White solid	Crystalline solid
pH:	No data available	No data available
Water Solubility:	50 mg/ml	No data available
Other Solubility:	No data available	PBS, DMSO
Specific Gravity (g/ml):	No data available	No data available
Boiling Point (°C):	No data available	No data available
Melting Point (°C):	No data available	No data available
Flash Point (°C):	No data available	No data available
Ignition Temperature (°C):	No data available	No data available
Density	No data available	No data available

SECTION 10: STABILITY AND REACTIVITY

Property	NAD	WST-8
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Chemical stability	Stable under recommended storage conditions	Stable under recommended storage conditions
Conditions to avoid:	No data available	No data available
Materials to avoid:	Strong oxidising agents	Strong oxidizing agents
Hazardous decomposition products:	No data available	carbon oxides, hydrogen sulfide, nitrogen oxides

SECTION 11: TOXICOLOGICAL INFORMATION

NAD(Beta-Nicotinamide Adenine DiNucleotide Sodium Salt):

Acute toxicity: No data available

Skin corrosion/irritation: No data available

Serious eye damage/eye irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: No data available

Specific target organ toxicity – single exposure (GHS): No data available

Specific target organ toxicity – repeated exposure (GHS): No data available

Aspiration hazard: No data available

Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed.

Signs and Symptoms of Exposure: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects: No data available

Additional information: RTECS: Not available.

WST-8:

Acute toxicity: No data available

Skin corrosion/irritation: No data available

Serious eye damage/eye irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Teratogenicity: No data available

Specific target organ toxicity – single exposure (GHS): No data available

Specific target organ toxicity – repeated exposure (GHS): No data available

Aspiration hazard: No data available

Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

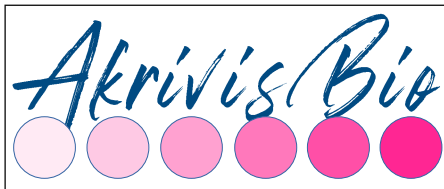
Signs and Symptoms of Exposure: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects: No data available

Additional information: RTECS: Not available.

SECTION 12: ECOLOGICAL INFORMATION

NAD(Beta-Nicotinamide Adenine DiNucleotide Sodium Salt):



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Persistence and degradability: No data available
Toxicity: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
PBT and vPvB assessment: No data available
Other adverse effects: No data available

WST-8:

Persistence and degradability: No data available
Toxicity: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
PBT and vPvB assessment: No data available
Other adverse effects: No data available

General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or unneutralized.

SECTION 13: DISPOSAL CONSIDERATIONS

NAD(Beta-Nicotinamide Adenine DiNucleotide Sodium Salt):

Product: Observe all federal, state, and local environmental regulations.
Contaminated packaging: Dispose of as unused product.

WST-8:

Product: Must not be disposed of together with household garbage. Do not allow product to reach sewage system
Contaminated packaging: Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION

NAD(Beta-Nicotinamide Adenine DiNucleotide Sodium Salt):

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
IATA: Not dangerous goods.

WST-8:

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
IATA: Not dangerous goods.

SECTION 15: REGULATORY INFORMATION

SARA 302 Components: SARA 302: No chemical in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title II, Section 313.

SARA 311/312 Hazards: NAD: Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components: No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components: NAD: CAS-No. 20111-18-6

New Jersey Right To Know Components: NAD: CAS-No. 20111-18-6

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

EU regulations: This product is not classified according to the EU regulations.

Component	Risk Phrases	Safety Phrases
NAD(Beta-Nicotinamide Adenine DiNucleotide Sodium Salt):	--	--
WST-8	--	--

SECTION 16: OTHER INFORMATION

DISCLAIMER:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. AkrivisBio, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.