



SAFETY DATA SHEET

(according to (EC) 1907/2006)

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

1.1. Product identifier Nonenyl Succinic Anhydride (K-9)

Synonyms: Nonenyl succinic anhydride

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

Not applicable

1.3. Details of the supplier of the safety data sheet

Manufacturer Information: Vertellus Health & Specialty
Products LLC, P.O. Box 730,
Delaware Water Gap, PA 18327
USA

Non-Emergency Fax Number: 570-421-9012
E-Mail Address: msds@vertellus.com

Non-Emergency Phone Number: 800-344-3426

1.4. Emergency telephone number

Vertellus: 800-344-3426

CHEMTREC (USA): (800) 424-9300

(collect calls accepted); (Int'l): (703) 527-3887

(collect calls accepted; 011 prefix not needed)

SECTION 2: Hazards identification

HMIS Rating	
HEALTH	2
FLAMMABILITY	1
REACTIVITY	0

2.1. Classification of the substance or mixture

(According to Regulation (EC) No 1272/2008)

Skin Sensitization Category 1

Serious Eye Damage/Eye Irritation Category 2

Skin Corrosion/Irritation Category 2

Acute Toxicity Dermal Category 1

Signal Word:

Danger

Hazard Precautions:

H317 - May cause an allergic skin reaction.

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H319 - Causes serious eye irritation.

H315 - Causes skin irritation.

H310 - Fatal in contact with skin.

2.2. Label elements

Hazard Symbols (Pictogram):



Prevention Precautions:

P272 - Contaminated work clothing should not be allowed out of the workplace.

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P270 - Do not eat, drink or smoke when using this product.

P264 - Wash hands thoroughly after handling.

P262 - Do not get in eyes, on skin, or on clothing.

First Aid Precautions:

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P362 - Take off contaminated clothing and wash before reuse.

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P321 - Specific treatment (see supplemental information on this label).

P302+P352 - IF ON SKIN: Wash with plenty of soap and water.

P363 - Wash contaminated clothing before reuse.

P361 - Remove/Take off immediately all contaminated clothing.

P322 - Specific measures (see supplemental information on this label).

P310 - Immediately call a POISON CENTER or doctor/physician.

P302+P350 - IF ON SKIN: Gently wash with plenty of soap and water.

Storage Precautions:

P405 - Store locked up.

Disposal Precautions:

P501 - Dispose of contents/container in accordance with local/regional/national/international regulation for hazardous wastes.

Single Exposure Target Organs:

Not applicable

Repeated Exposure Target Organs:

Not applicable



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(According to Directive 67/548/EEC)

Symbol: Not classified as hazardous under this directive.
Risk Phrases: R36/38: Irritating to eyes and skin.
R43: May cause sensitisation by skin contact.
Safety Phrases: S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

2.3. Other hazards

Signs and Symptoms of Potential Overexposure: Single exposure to vapors or mist is not likely to be hazardous. Prolonged skin contact may cause irritation or dermatitis. Prolonged or repeated skin contact may cause skin irritation in some individuals.
Primary Route(s) of Exposure: Skin contact and absorption, eye contact, ingestion, inhalation.
Medical Conditions Aggravated by Exposure: No data found

SECTION 3: Composition/information on ingredients

3.1. Substances or 3.2. Mixtures

Ingredient	CAS Number	Concentration (%)	EINECS / ELINCS	EU Symbol	Risk Phrases
Nonenyl Succinic Anhydride	28928-97-4	100.000000	249-317-8	D2B	R36/38- R43

NOTE: See Section 8 of this MSDS for exposure limit data for these ingredients.
See Section 15 of this MSDS for trade secret information (where applicable).
See Section 16 of this MSDS for the full text of the R-phrases above.

SECTION 4: First aid measures

4.1. Description of first aid measures

Skin Contact: Get medical attention if irritation develops or persists.
Eye Contact: Rinse eyes immediately with large amounts of water for at least 15 minutes, occasionally lifting the eyelids.
Inhalation: No specific treatment is necessary since this material is not likely to be hazardous by inhalation. Causes respiratory tract irritation
Ingestion: Do not give anything by mouth to an unconscious person. If swallowed, have a trained medical professional induce vomiting immediately. Never give anything by mouth to an unconscious person. Get medical attention immediately.

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

Acute: Single exposure to vapors or mist is not likely to be hazardous. Prolonged skin contact may cause irritation or dermatitis. Prolonged or repeated skin contact may cause skin irritation in some individuals.
Delayed Effects: None known.

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

Thermal Exposure: Not applicable.

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Note to Physician: No additional first aid information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media: Water fog, foam, alcohol foam, carbon dioxide, dry chemical. Dry chemical Water spray

5.2. Special hazards arising from the substance or mixture

Hazardous Products of Combustion: None Known

Potential for Dust Explosion: not available

Special Flammability Hazards: Not applicable.

5.3. Advice for firefighters

Basic Fire Fighting Guidance: During a fire irritating or toxic gases may be generated by thermal decomposition or combustion. Reacts vigorously with water, moist air, or acid liberating flammable vapors that can be ignited.

Flammability Classification (OSHA): Not applicable.

NFPA Rating



SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuation Procedures: Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Special Instructions: Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

6.2. Environmental precautions

Prevent releases to soils, drains, sewers, and waterways.

6.3. Methods and material for containment and cleaning up

Containment Techniques and Clean-up Procedures: Ensure clean-up measures are in compliance with OSHA (29 CFR 1910.120).

Special Reporting Requirements: Not applicable.

6.4. Reference to other sections

Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.



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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for Unique Hazards:	Not applicable.
Practices to Minimize Risk:	Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material.
Special Handling Equipment:	Not applicable.

7.2. Conditions for safe storage, including any incompatibilities

Storage Precautions & Recommendations:	Keep container closed when not in use.
Dangerous Incompatibility Reactions:	Not available.
Incompatibilities with Materials of Construction:	none known

7.3. Specific end use(s)

If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits (United States):	OSHA PEL:	Not established	ACGIH TLV:	Not established
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8.2. Exposure controls

Also see the annex to this SDS (if applicable) for specific exposure scenario controls.

Personal Protective Equipment:	Use chemical goggles, faceshields, boots and impervious clothing, if conditions involve potential for splashing or spraying.
Respirator Caution:	Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.
Ventilation:	All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided. Use process enclosures to control the level of dust in the air. Local exhaust ventilation is recommended when generating excessive levels of vapors from handling or thermal processing.
Other Engineering Controls:	All appropriate engineering controls should be used to minimize exposure potential. Use exhaust ventilation to keep airborne concentrations below exposure limits.
Thermal Hazards:	Not applicable.
Additive or Synergistic Effects:	None known.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance, State & Odor (ambient temperature):	Slight Yellow liquid
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Molecular Formula:	Not applicable	Molecular Weight:	
Vapor Pressure:	Not applicable	Evaporation Rate:	0.02-0.1 (n-Butyl acetate = 1)
Specific Gravity or Density:	0.952000000 0.000	Vapor Density (air = 1):	< 1
Boiling Point:	325 °C 617 °F	Freezing / Melting Point:	Not applicable Not applicable
Solubility in Water:	Insoluble	Octanol / Water Coefficient:	Not applicable
pH:	Not applicable	Odor Threshold:	Not applicable
Viscosity:	Not applicable	Autoignition Temperature:	Not applicable
Flash Point and Method:	296deg F (147 deg C) (bpf)	Flammable Limits:	Not applicable (LEL) – Not applicable (UEL)

9.2. Other information

Not applicable.

SECTION 10: Stability and reactivity

<u>10.1. Reactivity</u>	Not classified as dangerously reactive.
<u>10.2. Chemical stability</u>	Stable
<u>10.3. Possibility of hazardous reactions</u>	Not expected to occur.
<u>10.4. Conditions to avoid</u>	High ambient temperatures, oxidizing agents, strong acids
<u>10.5. Incompatible materials</u>	Not available.
<u>10.6. Hazardous decomposition products</u>	Products of incomplete combustion may include CO, CO2 and dense smoke.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Oral LD ₅₀ :	Oral LD ₅₀ (rat) 2550 mg/kg
Acute Dermal LD ₅₀ :	(rabbit) 3.29 - 8 mg/kg Dermal LD ₅₀ (rabbit) 6200 mg/kg
Acute Inhalation LC ₅₀ :	Not available.
Skin Irritation:	May cause slight irritation.
Skin Sensitization:	No data available.
Eye Irritation:	Slightly irritating to eyes.
Target Organs:	No data available.
Carcinogenicity:	No data available.
Teratogenicity:	No data available.



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Reproduction: No data available.
Neurotoxicity: No data available.
Mutagenicity: No data available.
Additional Toxicity Information: Not applicable

SECTION 12: Ecological information

12.1. Toxicity Code:
12.2. Persistence and degradability No data No data available.
12.3. Bioaccumulative potential No data
12.4. Mobility in soil No data
12.5. Results of PBT and vPvB assessment Not available.
12.6. Other adverse effects No data available. Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

US EPA Waste Number: Not applicable

Waste Classification: (per US regulations) Dispose of by incineration following Federal, State, Local, or Provincial regulations.
NOTE: Generator is responsible for proper waste characterization. State (USA) hazardous waste regulations may differ substantially from federal (USA) regulations.

Waste Disposal: Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

14.1. UN number Not applicable
14.2. UN proper shipping name Chemicals, n.o.s. (Nonenylsuccinic Anhydride)
14.3. Transport hazard class(es) Not applicable
14.4. Packing group Not applicable
14.5. Environmental hazards Not applicable
14.6. Special precautions for user Not available.
NA Emergency Guidebook Numbers: Not applicable IMDG EMS: Not applicable



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14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: Regulatory information

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

OSHA Hazards: Not applicable.

WHMIS Classification: This product is not classified as a controlled product under Canadian Controlled Products Regulations.

Chemical Inventory Lists:	Status
TSCA:	Present
EINECS:	249-317-8
Canada(DSL/NDSL):	NDSL
Japan:	(2)-851
Korea:	Not Listed
Australia:	Not Listed
New Zealand:	Present
China:	Present
Philippines:	Not Listed
Switzerland:	Not Listed

New Zealand GHS Classification: Non classificato da questo paese.

Japan GHS Classification: Non classificato da questo paese.

Korea (MOL) GHS Classification: Non classificato da questo paese.

Australia GHS Classification: Non classificato da questo paese.

Taiwan GHS Classification: Non classificato da questo paese.

Indonesia GHS Classification: Non classificato da questo paese.

SARA 313: No
Yes

15.2. Chemical safety assessment

Not applicable.

SECTION 16: Other information



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Full text of R phrases in Section 3: R36/38: Irritating to eyes and skin.
R43: May cause sensitisation by skin contact.

Legend of abbreviations: ACGIH = American Conference on Governmental Industrial Hygienists.
CAS = Chemical Abstracts Service.
CERCLA = Comprehensive Environmental, Response, Compensation and Liability Act (1990).
CFR = Code of Federal Regulations.
DSL/NDSL = Domestic Substances List/Non-Domestic Substances List.
EC = European Community.
EEC = European Economic Community.
EINECS = European Inventory of Existing Commercial chemical Substances.
ELINCS = European List of Notified Chemical Substances.
EU = European Union.
GHS = Globally Harmonized System.
LC = Lethal concentration.
LD = Lethal dose.
MOL = Ministry of Labor.
NEMA = National Emergency Management Agency.
NFPA = National Fire Protection Association.
NIOSH = National Institute of Occupational Safety and Health.
NTP = National Toxicological Program.
OSHA = Occupational Safety and Health Administration
PEL = Permissible exposure limit.
RQ = Reportable quantity.
SARA = Superfund Amendments and Reauthorization Act of 1986.
TLV = Threshold limit value.
WHMIS = Workplace Hazardous Materials Information System.

Precautionary Statement: Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

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7/26/2002