Material Safety Data Sheet
Sodium Cyanide, Reagent ACS (Granular), 95+% (Titr.)

ACC# 01490

Section 1 - Chemical Product and Company Identification

MSDS Name: Sodium Cyanide, Reagent ACS (Granular), 95+% (Titr.)
Catalog Numbers: AC424300000, AC424300025, AC424300050, AC424305000
Synonyms: ; Cyanogran; Cymag; Hydrocyanic Acid, Sodium Salt; Kyanid Sodny; Prussiate of Soda.
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
143-33-9	Sodium Cyanide	>95	205-599-4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white granules.
Danger! May be fatal if inhaled, absorbed through the skin or swallowed. Corrosive. Poison! May cause severe respiratory and digestive tract irritation with possible burns. May cause central nervous system effects. May cause blood abnormalities. May cause severe eye and skin irritation with possible burns. May cause kidney damage. Hygroscopic (absorbs moisture from the air). May cause cardiac disturbances. This substance has caused adverse reproductive and fetal effects in animals.
Target Organs: Blood, heart, central nervous system.

Potential Health Effects

Eye: Contact with eyes may cause severe irritation, and possible eye burns. Contact may cause irritation, tearing, and burning pain. May cause chemical conjunctivitis and corneal damage. Dilated pupils are common in severe poisonings.
Skin: May be fatal if absorbed through the skin. If absorbed, causes symptoms similar to those of ingestion. Causes severe skin irritation and possible burns. Substance is readily absorbed through the skin.
Ingestion: May be fatal if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause tissue anoxia, characterized by weakness, headache, dizziness, confusion, cyanosis (bluish skin due to deficient oxygenation of the blood), weak and irregular heart beat, collapse, unconsciousness, convulsions, coma and death. Human fatalities have been reported from acute poisoning. May cause central nervous system damage and death can be rapid.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. May cause effects similar to those described for ingestion.
Chronic: Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated contact may cause skin necrosis and/or ulceration of the skin. May cause reproductive and fetal effects. Chronic exposure can affect thyroid function. Functional changes in hearing, loss of apetite, headache, weakness, nausea, dizziness, have been described in chronically exposed workers.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid imme diately.
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure.
Ingestion: Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Notes to Physician: Persons with kidney disease, chronic respiratory disease, liver disease, or skin disease may be at increased risk from exposure to this substance. Exposure should be treated as a cyanide poisoning.

Section 5 - Fire Fighting Measures

General Information: Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes. Runoff from fire control or dilution water may cause pollution.
Extinguishing Media: Do NOT use carbon dioxide. Do NOT get water inside containers. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water. Most foams will react with the material and release corrosive/toxic gases. For small fires, use dry chemical, dry sand, alcohol-resistant foam.

Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Do not flush into a sewer. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Evacuate unnecessary personnel.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Do not allow contact with water. Use only in a chemical fume hood. Discard contaminated shoes. Keep from contact with moist air and steam. Acids should not be used around sodium cyanide or potassium cyanide unless absolutely necessary and then only after careful planning. Hydrogen cyanide (HCN) formation is the greatest potential hazard in using sodium cyanide or potassium cyanide solutions because some HCN gas will be released.
Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids. Poison room locked. Keep containers tightly closed. Store protected from moisture.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium Cyanide	Skin - potential significant contribution to overall exposure by the cutaneous r oute; 5 mg/m3 Ceiling (as CN, listed under hydrogen cyanide and cyanide salts)	25 mg/m3 IDLH (as CN)	5 mg/m3 TWA (listed under Cyanide anion).

OSHA Vacated PELs: Sodium Cyanide: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves and clothing to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Granules
Appearance: white
Odor: Slightly bitter-almond odor when moist
pH: Strongly alkaline
Vapor Pressure: 1 mm Hg @ 817 deg C
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: 4 cP @ 30 deg C
Boiling Point: 1496 deg C
Freezing/Melting Point:563.7 deg C
Decomposition Temperature: Not available.
Solubility: Soluble.
Specific Gravity/Density:1.6000g/cm3
Molecular Formula:CNaN
Molecular Weight:49.00

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Readily absorbs carbon dioxide and moisture from the air and deliquesces (to absorb atmospheric water vapor and become liquid).
Conditions to Avoid: High temperatures, incompatible materials, dust generation, exposure to moist air or water.
Incompatibilities with Other Materials: Strong oxidizing agents, acids, carbon dioxide, fluorine, magnesium, nitrates, nitric acid, perchlorates, metal cyanides, moisture, metal perchlorates, weak bases.
Hazardous Decomposition Products: Hydrogen cyanide, oxides of nitrogen, sodium oxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 143-33-9: VZ7525000
LD50/LC50:
CAS# 143-33-9:
Oral, rat: LD50 = 6440 ug/kg;
Oral, rat: LD50 = 4.7 mg/kg;
Skin, rabbit: LD50 = 10400 ug/kg;
Skin, rabbit: LD50 = 300 mg/kg;

Carcinogenicity:
CAS# 143-33-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Workers exposed to cyanide salts in heat treatment of metals reportedly developed enlarged thyroid glands in the occupational setting (Goiter).
Teratogenicity: Teratogenic effects have occurred in experimental animals.
Reproductive Effects: Adverse reproductive effects have occurred in experimental animals.
Mutagenicity: Mutagenic effects have occurred in experimental animals.
Neurotoxicity: Neurotoxic effects have occurred in humans.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. This chemical has a high potential to affect aquatic organisms and terrestrial plants. It inhibits secondary waste treatment microorganisms. Acute aquatic effects: 96-hour LC50; Fathead minnow: 0.32mg/L Plant germination effects: No adverse effects at: ryegrass 10 mg/L; radish 0.1 mg/L; lettuce 1.0 mg/L.
Environmental: Will biodegrade if solutions are sufficiently dilute. However, dicharge of this material should be avoided if possible.
Physical: Will dissociate readily in water into cyanide ion. May react with water to form HCN. If an excess of cyanide ion is present, will form complex metallocyanides, otherwise simple metallic cyanides will form.
Other: No information found.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: CAS# 143-33-9: waste number P106.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	SODIUM CYANIDE	SODIUM CYANIDE
Hazard Class:	6.1	6.1
UN Number:	UN1689	UN1689
Packing Group:	I	I

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 143-33-9 is listed on the TSCA inventory.
Health & Safety Reporting List
CAS# 143-33-9: Effective 10/29/90, Sunset 12/19/95
Chemical Test Rules
CAS# 143-33-9: Test for Chemical Fate; Test for Terrestrial Effects
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 143-33-9: 10 lb final RQ; 4.54 kg final RQ
SARA Section 302 Extremely Hazardous Substances
CAS# 143-33-9: 100 lb TPQ (This material is a reactive solid. The TPQ does not default to 10000 pounds for non-powder, non-molten, non-solv ent form)
SARA Codes
CAS # 143-33-9: acute, reactive.
Section 313 No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 143-33-9 is listed as a Hazardous Substance under the CWA. CAS# 143-33-9 is listed as a Priority Pollutant under the Clean Water Act. CAS# 143-33-9 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 143-33-9 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T+ N

Risk Phrases:

R 26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.
R 32 Contact with acids liberates very toxic gas.
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 28 After contact with skin, wash immediately with...
S 29 Do not empty into drains.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 7 Keep container tightly closed.
S 60 This material and its container must be disposed of as hazardous waste.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 143-33-9: 3

Canada - DSL/NDSL

CAS# 143-33-9 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A, D2B, E.

Canadian Ingredient Disclosure List

CAS# 143-33-9 (listed as Cyanides, inorganic salts) is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 8/24/1997
Revision #9 Date: 9/05/2003