



a member of the Roche Group

Material Safety Data Sheet

Material Name: Nuclear Fast Red

MSDS ID: 00231379

*** Section 1 - Chemical Product and Company Identification ***

Manufacturer Information

VENTANA MEDICAL SYSTEMS INC.

1910 E. Innovation Park Drive

Tucson, AZ 85755

Phone: (520) 887-2155

EMERGENCY TELEPHONE NUMBER:

(800) 424-9300 (USA/Canada)

CHEMTREC: +1 (703) 527-3887 (International)

Material Name: Nuclear Fast Red

Trade Names/Synonyms

Nuclear Fast Red Counterstain

Product Number(s)

1520200

Product Use

clinical/research

*** Section 2 - Hazards Identification ***

NFPA Ratings: Health: 2 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Preparation Classification

This material is not classified.

EMERGENCY OVERVIEW

Color: red

Physical Form: liquid

Odor: odorless

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Major Health Hazards: respiratory tract irritation, skin irritation, eye irritation

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: irritation, cough, sore throat

Long Term: irritation, difficulty breathing, wheezing, lung damage

Skin

Short Term: irritation, allergic reactions

Long Term: irritation, allergic reactions

Eye

Short Term: irritation

Long Term: irritation

Ingestion

Short Term: digestive disorders

Long Term: no information on significant adverse effects

* * * Section 3 - Composition/Information on Ingredients * * *

CAS #	Component / EU Number	Percent	Symbol(s)	Risk Phrase(s)
Not Available	NON-HAZARDOUS -	93.6	---	---
16828-11-8	ALUMINUM SULFATE HEXADECYDRATE -	5.3	Xi	R:36-37-38
26628-22-8	SODIUM AZIDE 247-852-1	<0.1	T+ N	R:28-32-50-53

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Aluminium compounds, Aluminum, soluble salts.

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*** Section 4 - First Aid Measures ***

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin

Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing before reuse. Get medical attention, if needed.

Eyes

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If a large amount is swallowed, get medical attention.

*** Section 5 - Fire-Fighting Measures ***

See Section 9 for Flammability Properties

Flammable Properties

Negligible fire hazard.

Extinguishing Media

Use extinguishing agents appropriate for surrounding fire.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

Sensitivity to Mechanical Impact

Not sensitive

Sensitivity to Static Discharge

Not sensitive

*** Section 6 - Accidental Release Measures ***

Occupational Spill/Release

Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

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***** Section 7 - Handling and Storage *****

Storage Procedures

Store and handle in accordance with all current regulations and standards. Store between 2 C and 30 C. See original container for storage recommendations. Keep separated from incompatible substances.

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*** Section 8 - Exposure Controls/Personal Protection ***

Exposure Limits

ALUMINUM SULFATE HEXADECYDRATE (16828-11-8)

NIOSH: 2 mg/m3 TWA Al (related to Aluminum, soluble salts)

OSHA: 2 mg/m3 TWA Al Aluminum (related to Aluminum, soluble salts)

Belgium: 2 mg/m3 TWA (Al) (related to Aluminum, soluble salts)

Denmark: 1 mg/m3 TWA (Al) (related to Aluminum, soluble salts)

France: 2 mg/m3 VME (related to Aluminum, soluble salts)

Greece: 2 mg/m3 TWA Al (related to Aluminum, soluble salts)

Ireland: 2 mg/m3 TWA (related to Aluminum, soluble salts)

Portugal: 2 mg/m3 TWA (Al) (related to Aluminum, soluble salts)

Spain: 2 mg/m3 VLA-ED (related to Aluminum, soluble salts)

United Kingdom: 6 mg/m3 STEL (related to Aluminum, soluble salts)

2 mg/m3 TWA (related to Aluminum, soluble salts)

SODIUM AZIDE (26628-22-8)

ACGIH: 0.29 mg/m3 Ceiling NaN₃; 0.11 ppm Ceiling Hydrazoic acid vapor

NIOSH: 0.1 ppm Ceiling HN₃; 0.3 mg/m3 Ceiling NaN₃

Potential for dermal absorption

OSHA: 0.1 ppm Ceiling HN₃; 0.3 mg/m3 Ceiling NaN₃

Prevent or reduce skin absorption

Austria: 0.3 mg/m3 STEL (4 X 15 min)

0.1 mg/m3 MAK

skin notation

Belgium: Skin

Denmark: 0.1 mg/m3 TWA

Potential for cutaneous absorption

Finland: 0.3 mg/m3 STEL

0.1 mg/m3 TWA

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Potential for cutaneous absorption

France: 0.3 mg/m³ VLCT (restrictive limit)

0.1 mg/m³ VME restrictive limit

Germany: 0.2 mg/m³ TWA (exposure factor 2)

0.2 mg/m³ MAK (inhalable fraction)

0.4 mg/m³ Peak (inhalable fraction)

Greece: 0.1 ppm STEL; 0.3 mg/m³ STEL

0.1 ppm TWA; 0.3 mg/m³ TWA

Ireland: 0.3 mg/m³ STEL (NaN₃)

0.1 mg/m³ TWA (NaN₃)

Potential for cutaneous absorption

Italy: 0.1 mg/m³ TWA

Netherlands: 0.3 mg/m³ STEL

0.1 mg/m³ TWA

skin notation

Spain: 0.3 mg/m³ VLA-EC

0.1 mg/m³ VLA-ED (indicative limit value)

skin - potential for cutaneous exposure

Sweden: 0.1 mg/m³ LLV

0.3 mg/m³ STV

United Kingdom: 0.3 mg/m³ STEL (NaN₃)

0.1 mg/m³ TWA (NaN₃)

Potential for cutaneous absorption

Ventilation

Provide adequate ventilation. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Safety glasses or goggles are recommended when there is a potential for eye contact. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

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Protective Clothing

Lab coat or apron.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Protective Materials

latex, vinyl, nitrile

Respiratory Protection

No respirator is required under normal conditions of use.

*** Section 9 - Physical and Chemical Properties ***

Physical State:	Liquid	Appearance:	clear
Color:	red	Physical Form:	liquid
Odor:	odorless	Odor Threshold:	Not available
pH:	acidic	Melting/Freezing Point:	Not available
Boiling Point:	Not available	Flash Point:	not flammable
Evaporation Rate:	Not available	Vapor Pressure:	Not available
Vapor Density (air = 1):	Not available	Density:	Not available
Specific Gravity (water = 1):	Not available	Water Solubility:	miscible
Coeff. Water/Oil Dist.:	Not available	Viscosity:	Not available
Volatility:	Not available		

*** Section 10 - Stability and Reactivity ***

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

None reported.

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Materials to Avoid

bases, amines, alkali metals, copper, copper alloys, aluminum, steel

Decomposition Products

miscellaneous decomposition products

Possibility of Hazardous Reactions

Will not polymerize.

* * * Section 11 - Toxicological Information * * *

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

SODIUM AZIDE (26628-22-8)

Oral LD50 Rat: 27 mg/kg; Dermal LD50 Rat: 50 mg/kg; Dermal LD50 Rabbit: 20 mg/kg

RTECS Acute Toxicity (selected)

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Acute Toxicity Level

SODIUM AZIDE (26628-22-8)

Highly Toxic: inhalation, dermal absorption, ingestion.

Irritation/Corrosivity

RTECS Irritation

The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

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Local Effects

ALUMINUM SULFATE HEXADECYDRATE (16828-11-8)

Irritant: inhalation, skin, eye.

SODIUM AZIDE (26628-22-8)

Irritant: inhalation, skin, eye.

Target Organs

SODIUM AZIDE (26628-22-8)

blood.

Carcinogenicity

Component Carcinogenicity

SODIUM AZIDE (26628-22-8)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Mutagenic

No information available.

Reproductive Effects

No information available.

Tumorigenic

No information available.

Medical Conditions Aggravated by Exposure

No information available.

*** Section 12 - Ecological Information ***

Component Analysis - Aquatic Toxicity

SODIUM AZIDE (26628-22-8)

Fish: 96 Hr LC50 Oncorhynchus mykiss: 0.8 mg/L; 96 Hr LC50 Lepomis macrochirus: 0.7 mg/L; 96 Hr LC50 Pimephales promelas: 5.46 mg/L [flow-through]

Mobility

No information available.

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Persistence & Degradation

No information available.

Bioaccumulative Potential

No information available.

* * * Section 13 - Disposal Considerations * * *

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Numbers

SODIUM AZIDE (26628-22-8)

RCRA: waste_number P105

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*** Section 14 - Transport Information ***

US DOT Information

Not regulated.

TDG Information

Not regulated.

ADR Information

Not regulated.

RID Information

Not regulated.

IATA Information

Not regulated.

ICAO Information

Not regulated.

IMDG Information

Not regulated.

*** Section 15 - Regulatory Information ***

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

SODIUM AZIDE (26628-22-8)

SARA 302/304: 500 lb TPQ (This material is a reactive solid. The TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form)

1000 lb EPCRA RQ

SARA 313: 1.0 % de minimis concentration

CERCLA: 1000 lb final RQ; 454 kg final RQ

SARA 311/312

Acute Health: Yes **Chronic Health:** No **Fire:** No **Pressure:** No **Reactive:** No

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U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component / EC Number	CAS	CA	MA	MN	NJ	PA	RI
ALUMINUM SULFATE HEXADECYDRATE (¹ related to: Aluminum, soluble salts)	16828-11-8	Yes ¹	No	Yes ¹	No	Yes ¹	No
SODIUM AZIDE	26628-22-8	Yes	Yes	Yes	Yes	Yes	Yes

California Proposition 65

Not regulated under California Proposition 65

Canadian Regulations

Canada WHMIS

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

ALUMINUM SULFATE HEXADECYDRATE (16828-11-8)

1 %

WHMIS Classification

D2B.

European Regulations

Germany Water Classification

SODIUM AZIDE (26628-22-8)

Number 636, hazard class 2 - hazard to waters

EU Marking and Labelling

This material is not classified.

Japanese Regulations

Japan Designated Chemical Substances (PRTR Law)

SODIUM AZIDE (26628-22-8)

11 (effective from October 1, 2009)

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Japan Poisonous and Deleterious Substances

SODIUM AZIDE (26628-22-8)

Poisonous, 0.1 %

Industrial Safety and Health Law - Flammable Materials

SODIUM AZIDE (26628-22-8)

Explosive substance

Industrial Safety and Health Law - Label Disclosure

No components of this material are specifically required to be indicated on a container label as specified by Article 18 of the Enforcement Order of the Industrial Safety and Health Law.

Industrial Safety and Health Law - Organic Solvents

No components of this material are specifically identified in Table 6-2 of the Enforcement Order of the Industrial Safety and Health Law which, if used in the workplace, require designation of an Operations Chief during confined space work and periodic machine inspections.

* * * Section 16 - Other Information * * *

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

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Full text of R phrases in Section 3

R28 Very toxic if swallowed.

R32 Contact with acids liberates very toxic gas.

R36 Irritating to eyes.

R37 Irritating to respiratory system.

R38 Irritating to skin.

R50 Very toxic to aquatic organisms.

R53 May cause long-term adverse effects in the aquatic environment.

Other Information

Limitations: The information and recommendations set forth in this MSDS are believed to be correct as of this date. Ventana Medical Systems, Inc. makes no warranty with respect to the content of this MSDS and disclaims all liability from reliance thereon.

Revision History

End of Sheet 00231379