

Material Safety Data Sheet

Oxidizer

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Oxidizer		
Synonyms/Generic Names:	none		
Product Use:	Laboratory use		
Manufacturer:	Roche NimbleGen, Inc. 500 S. Rosa Rd, Madison, WI 53719		
For More Information Call:	608-218-7600 x4 (Monday – Friday 8:00-4:30)	IN CASE OF EMERGENCY CALL: (24 Hours/Day, 7 Days/Week)	CHEMTREC 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight %	Component	CAS #	EINECS# / ELINCS#	EC Classification*
89-91%	Pyridine ** +	110-86-1	203-809-9	F, Xn ; R11, R20/21/22
<1%	Iodine	7553-56-2	231-442-4	Xn, N ; R20/21, R50

* Symbol and R phrase according to EC Annex1

** Subject to the reporting requirements of SARA Title III Section 313

+ This product is listed on California Proposition 65

3. HAZARDS IDENTIFICATION

Translucent, red solution

R11 – Highly Flammable

R20/21/22 – Harmful by inhalation, in contact with skin and if swallowed.

R50 – Very toxic to aquatic organisms

S2, S26, S28, S23, S25, S61

Routes of Entry: Skin, inhalation, material is absorbed through the skin.

Ingredients found on carcinogen lists:

INGREDIENT NAME	NTP STATUS	IARC STATUS	OSHA LIST	ACGIH
Pyridine	Yes	Group 3-Possible	Not Listed	A-3-Possible
Iodine	Not Listed	Not Listed	Not Listed	Not Listed



4. FIRST AID INFORMATION

MAY BE FATAL IF INHALED, SWALLOWED OR ABSORBED THROUGH SKIN IN LARGE QUANTITIES.

Inhalation:	Causes respiratory tract irritation. edema. Inhalation may also cause sneezing, coughing, wheezing, salivation, nausea, giddiness. Move casualty to fresh air and keep at rest. Get medical attention immediately.
Eyes:	Irritating to eyes. Causes eye irritation, lacrimation, redness, and pain, blurred vision and conjunctivitis. May stain eyes yellow. In case of eye contact, rinse with plenty of water and seek medical attention.
Skin:	Irritating to skin and absorbed through skin. Causes skin irritation, reddening and itching, inflammation. May stain skin reddish-yellow. May cause skin sensitivity. Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
Ingestion:	Do Not induce vomiting unless instructed to by medical help! Toxic. Irritant. Causes gastrointestinal tract irritation, nausea, abdominal pain, vomiting, diarrhea. Symptoms may be delayed. Wash out mouth with water and give 1-2 glasses of water or milk. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

FLAMMABLE PROPERTIES: (Pyridine)

Flash Point:	20°C (68°F)
Flash Point method:	Closed cup
Autoignition Temperature:	482°C (900°F)
Upper Flame Limit (volume % in air):	1.8%
Lower Flame Limit (volume % in air):	12.4%

Extinguishing Media: Use alcohol foam, dry chemical or carbon dioxide. Water is not effective for extinguishing fires of this material. Cool containers with water.

Special fire-fighting procedures: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

Hazardous combustion products: Emits toxic fumes under fire conditions. (See also Stability and Reactivity section).

Unusual fire and explosion hazards: Vapor may travel considerable distance to source of ignition and flashback. Container explosion may occur under fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: See section 8 for recommendations on the use of personal protective equipment.

Environmental precautions: Cleanup personnel need personal protection from inhalation and skin/eye contact. Evacuate and ventilate the area, shut off ignition sources. Prevent spillage from entering drains. Absorb spill with vermiculite or other inert absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Any release to the environment may be subject to federal/national or local reporting requirements. Dispose of all waste or cleanup materials in accordance with local regulations. Containers, even when empty, will retain residue and vapors.

7. HANDLING AND STORAGE

Normal handling: See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

Storage: Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls: (consult local authorities for acceptable exposure limits)

Chemical name	Regulatory List	Value and type
Pyridine	USA OSHA PEL	15 mg/m ³ TWA
	USA ACGIH	15 mg/m ³ TLV
	USA NIOSH	15 mg/m ³ REL
	OSHA IDLH	1000 ppm
Iodine	USA ACGIH	0.1 ppm STEL
	USA OSHA.	0.1 ppm ceiling
	UK	0.1 PPM
	USA NIOSH	0.1 ppm ceiling
	OSHA IDLH	2 ppm

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

Ventilation: Provide local exhaust, preferably mechanical.

Respiratory protection: If necessary use an approved respirator with organic vapor cartridges.

Eye protection: Wear chemical safety glasses with a face shield for splash protection.

Skin and body protection: Wear neoprene or rubber gloves, apron and other protective clothing appropriate to the risk of exposure.

Other Recommendations: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Translucent, red liquid
Physical state:	Liquid
Odor:	sharp, nauseating, fish-like
Odor Threshold:	<1 ppm (pyridine)
Specific Gravity:	0.9900
pH:	Not Available
Melting Point/Freezing Point:	Not Available
Boiling Point/Range:	Not Available
Flammability:	Flammable (See section 5)
Flash point:	Flammable (See section 5)
Evaporation Rate (Butyl Acetate =1):	Not Available
Explosive Limits:	(See section 5)
Vapor Pressure (at 20°C):	18 mmHg (pyridine)
Vapor Density (air =1):	0.982 (pyridine)
Solubility:	Completely soluble in water
Partition coefficient/n-octanol/water:	Log Kow: 0.65 (pyridine)
% Volatile:	Not Available
Auto ignition Temperature:	482°C (900°F)(pyridine)(See section 5)

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to avoid: Heat, ignition sources, incompatible materials.

Incompatibility: Oxidizing and reducing agents, acids, chlorosulfonic acid, explosives, sulfites.

Hazardous decomposition products: acids, iodines and cyanides

Hazardous polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Effects: See section 4 for symptoms of exposure and effects. Likely routes of exposure are skin, skin absorption and inhalation.

Target organs: Kidney, bone marrow, central nervous system, liver.

Acute Toxicity Data:

Pyridine	LD50 [oral, rat]; 891 mg/kg
	LC50 [rat]; 9015 ppm (4 hour)
	LD50 Dermal [rabbit]; 1121 mg/kg
Iodine	LD50 [oral, rat]; 14000 mg/kg
	LCL [rat]; 137 ppm (1 hour)

Chronic Effects: May have long term effects on liver, kidneys, central nervous system and lungs. Possible carcinogen.

Teratogenicity: Not Available

Mutagenicity: Not Available

Embryotoxicity: Not Available

Synergistic Products/Effects: Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial): LD50 (96 hrs) ; 93.8 mg/L (Pimephales promelas)
EC50 (48 hours): 940 mg/L (Daphnia Magna)

Persistence and Degradability: Not Available

Bioaccumulative Potential: Not Available

Mobility in Soil: Not Available

Other Adverse Effects: Not Available

13. DISPOSAL CONSIDERATIONS

RCRA: Hazardous waste? Yes, pyridine RCRA ID number: U196, D038, F005

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Waste Residues: Carefully cleanup per spill procedures in section 6. Users should review their operations in terms of the applicable federal/nation or local regulations and consult with appropriate regulatory agencies before disposing of waste material.

Product containers: Containers, if thoroughly cleaned, preferably by rinsing three times and handling the rinse water as waste residues, may be disposed of or recycled as non-hazardous waste. Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies before discharging or disposing of waste material.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

DOT: UN1282, Pyridine solution, 3, pg II

TDG: UN1282, Pyridine solution, 3, pg II

PIN: Not Available

IDMG: UN1282

Marine Pollutant: Yes

IATA/ICAO: UN11282, Pyridine, 3, pg II

RID/ADR: UN11282, Pyridine, class 3

15. REGULATORY INFORMATION

TSCA Inventory Status: All ingredients are listed on the TSCA inventory.

Federal and State Regulations:

RTK hazardous substances: Pyridine

SARA 302/304/311/312 extremely hazardous substances: No

SARA 313 toxic chemical notification and release reporting: Pyridine, Iodine

CERCLA: Hazardous Substances: Pyridine, 1000lbs.

California Proposition 65: Yes - Pyridine

WHMIS Canada:

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).

CLASS D-1A: Material causing immediate and serious toxic effects, Very Toxic.

CLASS D-2B: Material causing other toxic effects, Toxic.

DSCL (EEC):

R11 – Highly flammable

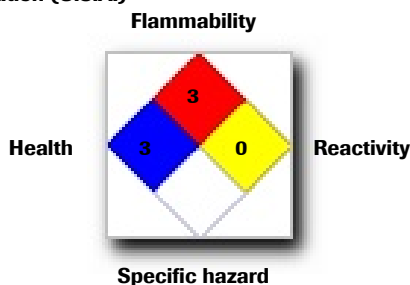
R20/21/22 – Harmful by inhalation, in contact with skin and if swallowed.

R50 – Very toxic to aquatic organisms

HMIS (U.S.A.)

Health Hazard	3
Fire Hazard	3
Reactivity	0

National Fire Protection Association (U.S.A.)



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Protective Equipment:



ADR (Europe):



TDG (Canada):



DSCL (Europe):



16. OTHER INFORMATION

Current Issue Date: April 4, 2006
Previous Issue Date: N/A
Prepared by: Sherry Brock

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