U.S. Department of Transportation
Pipeline and Hazardous Material Safety Administration

1200 New Jersey Ave, S.E.
Washington, D.C. 20590

DEC 15 2009

Mr. Gene Sanders
Senior Dangerous Goods Transportation Specialist
Thermo Fisher Scientific
2000 Park Lane
Pittsburgh, PA 15275 USA

Ref. No. 09-0233

Dear Mr. Sanders:

This responds to your October 15, 2009 request for clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you ask for assistance in determining the hazard class for your alcohol mixture.

According to your letter, your product (Fast Orange G ; Pigment Orange 13, Pyrazolone Orange, C.I. 21110, CAS#3520-72-7) has a chemical structure that, according to Appendix 6 to the United Nations Manual of Tests and Criteria, fourth revised edition, may result in unintended explosive or self-reactive properties. You do not have test data that indicates whether this material meets the definition of a Class 1 (explosive) or a Division 4.1 (self-reactive) material. You state that the Fast Orange G is diluted to less than 1% with common alcohols, water, and less than 1% Phosphotungstic acid. You suggest that at this concentration, even if pure Fast Orange G met the definition for a Class 1 (explosive) material, it has been sufficiently desensitized that it no longer exhibits explosive characteristics.

Section 173.22 requires a shipper to properly class and describe a hazardous material for transportation in commerce. This Office does not perform that function. However, based on the information provided in your letter and the MSDS enclosed in your letter, it is the opinion of this Office that your product should be described as "UN1993, Flammable liquid solution, n.o.s., 3, II."

I hope this answers your inquiry. If you need further assistance, please contact this Office.

Sincerely,

Charles E. Betts
Chief, Standards Development
Office of Hazardous Materials Standards

Drakeford, Carolyn (PHMSA)

Boothe
§172.101
Classification
09-0233

From: Gorsky, Susan (PHMSA)
Sent: Friday, October 16, 2009 7:41 AM
To: Drakeford, Carolyn (PHMSA)
Subject: FW: Transport classification verification requested
Attachments: Pigment Orange 13.pdf; OG-6 MSDS.pdf

From: Sanders, Gene [mailto:gene.sanders@thermofisher.com]
Sent: Thursday, October 15, 2009 5:52 PM
To: Gorsky, Susan (PHMSA); Gorsky, Susan (PHMSA); Watson, Spencer (PHMSA); Watson, Spencer (PHMSA)
Cc: Mayfield, John; Kosarich, Kathy
Subject: Transport classification verification requested

Dr. Watson and Ms. Gorsky,

Fast Orange G (Pigment Orange 13, Pyrazolone Orange, C.I. 21110, CAS# 3520-72-7), chemical structure attached, has a chemical structure which Appendix 6 to the United Nations Manual of Tests and Criteria, fourth revised edition, suggests may cause it to have some unintended explosive or self-reactive properties. No test data has been found to indicate whether or not this material might meet the definition of a Class 1 or a Division 4.1 self-reactive.

In a product known as OG-6, Fast Orange G is diluted to less than 1% in some common alcohols, water, and less than 1% Phosphotungstic acid, MSDS attached. At this concentration, even if pure Fast Orange G were to be a Class 1 material, it seems reasonable to believe that it has been adequately desensitized.

Does PHMSA find anything non-compliant with using the following transport classifications for OG-6?
49CFR: UN1987, Alcohols, n.o.s., 3, II
ICAO: UN1987, Alcohols, n.o.s. (Ethanol, Methanol, Isopropanol), 3, II
IMO: UN1987, Alcohols, n.o.s. (Ethanol, Methanol, Isopropanol), 3, II

Thank you for your review and evaluation.

Cheers,

Gene Sanders, DGSA
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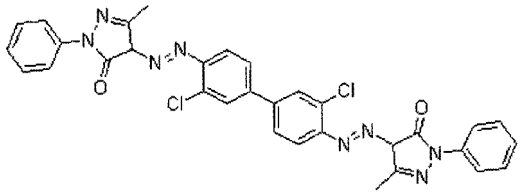
<<Pigment Orange 13.pdf>> <<OG-6 MSDS.pdf>>

Pigment Orange 13

Identification

Name	Pigment Orange 13
Synonyms	C.I. 21110; 4,4'-[(3,3'-Dichloro[1,1'-biphenyl]-4,4'-diyl)bis (azo)]bis[2,4-dihydro-5-methyl-2-phenyl-3H-pyrazol-3-one]
Molecular Structure	
Molecular Formula	$C_{32}H_{24}Cl_2N_8O_2$
Molecular Weight	623.49
CAS Registry Number	3520-72-7
EINECS	222-530-3

List of Suppliers

The Complete List of Suppliers for Pigment Orange 13

Market Analysis Reports

List of Reports Available for Pigment Orange 13

ACC# 93611

Thermo SCIENTIFIC

Print Date: 8/01/08
Revision Date: 8/01/2008
Version: 2

Material Safety Data Sheet

OG-6

Section 1 - Chemical Product and Company Identification

MSDS Name:

OG-6

Catalog Numbers:

75204, 75204E, 75211, 75211E, 75225

Synonyms:

None Known.

Company Identification:

Richard Allan Scientific
4481 Campus Drive
Kalamazoo, MI 49008

Company Phone Number:

800-522-7270

Emergency Phone Number:

800-424-9300

CHEMTREC Phone Number, US:

(800) 424-9300

CHEMTREC Phone Number, Europe:

(202) 483-7616

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent	EINECS/ ELINCS	Hazard Symbols	Risk Phrases
64-17-5	Ethyl alcohol	75-78	200-578-6	F	11
7732-18-5	Water	12-14	231-791-2		
67-63-0	Isopropyl alcohol	4-5	200-661-7	F Xi	11 36 67
67-56-1	Methyl alcohol	4-5	200-659-6	F T	11 23/24/25 39/23/24/25
3520-72-7	Orange G	<1.0	222-530-3		
12067-99-1	Phosphotungstic acid	<1.0	235-087-6		

Material Safety Data Sheet

OG-6

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Orange liquid
Danger! Poison! Flammable liquid and vapor. May be fatal or cause blindness if swallowed. Harmful if swallowed, inhaled, or absorbed through the skin. Vapor harmful. Causes eye, skin, and respiratory tract irritation. This substance has caused adverse reproductive and fetal effects in humans. May cause central nervous system depression. May cause liver, kidney and heart damage. Cannot be made non-poisonous. Flash Point: 16.5°C.
Target Organs: Kidneys, Heart, Liver, Eyes, Nervous system, Optic nerve

Potential Health Effects

Eye:

Causes severe eye irritation. May cause painful sensitization to light. May cause visual impairment. May cause chemical conjunctivitis and corneal damage.

Skin:

Causes moderate skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. May cause cyanosis of the extremities. Methanol can be absorbed through the skin, producing systemic effects that include visual disturbances.

Ingestion:

May be fatal or cause blindness if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

Inhalation:

Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. Methanol is toxic and can very readily form extremely high vapor concentrations at room temperature. Inhalation is the most common route of occupational exposure. At first, methanol causes CNS depression with nausea, headache, vomiting, dizziness and incoordination. A time period with no obvious symptoms follows (typically 8-24 hrs). This latent period is followed by metabolic acidosis and severe visual effects which may include reduced reactivity and/or increased sensitivity to light, blurred, doubl and/or snowy vision, and blindness. Depending on the severity of exposure and the promptness of treatment, survivors may recover completely or may have permanent blindness, vision disturbances and/or nervous system effects.

Chronic:

Prolonged or repeated skin contact may cause dermatitis. May cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects. Animal studies have reported the development of tumors. Prolonged exposure may cause liver, kidney, and heart damage. Chronic exposure may cause effects similar to those of acute exposure.

Section 4 - First Aid Measures

Eyes:

Get medical aid immediately. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

Skin:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion:

Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Effects may be delayed. Treat symptomatically and supportively. Persons with skin or eye disorders or liver, kidney, chronic respiratory diseases, or central and peripheral nervous sytem diseases may be at increased risk from exposure to this substance.

Antidote:

Ethanol may inhibit methanol metabolism. Replace fluid and electrolytes.

Section 5 - Fire Fighting Measures

General Information:

Replace fluid and electrolytes. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Water may be ineffective. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water.

Autoignition Temperature:

Not available

Explosion Limits:

Lower: 3.3 Upper: 19.0

Flash Point:

16.5°C (61.70°F)

NFPA Rating:

(estimated) Health: 2; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Keep away from heat, sparks and flame.

Storage:

Keep away from sources of ignition. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Do not store near perchlorates, peroxides, chromic acid or nitric acid.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name:	ACGIH	NIOSH	OSHA
Ethyl alcohol	1000 ppm TWA	1000 ppm TWA; 1900 mg/m3 TWA 3300 ppm IDLH (10% LEL)	1000 ppm TWA; 1900 mg/m3 TWA;
Water	None listed	None listed	None listed
Isopropyl alcohol	200 ppm TWA;400 ppm STEL	400 ppm TWA; 980 mg/m3 TWA 2000 ppm IDLH (10% LEL)	400 ppm TWA; 980 mg/m3 TWA;
Methyl alcohol	200 ppm TWA;250 ppm STEL;Skin - potential significant contribution to overall exposure by the cutaneous route	200 ppm TWA; 260 mg/m3 TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m3 TWA;
Orange G	None listed	None listed	None listed
Phosphotungstic acid	1 mg/m3 TWA (as W) (listed under Tungsten, soluble compounds); 3 mg/m3 STEL (as W) (listed under Tungsten, soluble compounds)	1 mg/m3 TWA (as W) (listed under Tungsten, soluble compounds)	None listed

OSHA Vacated PELs

Ethyl alcohol: 1000 ppm TWA; 1900 mg/m3 TWA
Isopropyl alcohol: 400 ppm TWA; 980 mg/m3 TWA
Methyl alcohol: 200 ppm TWA; 260 mg/m3 TWA

Phosphotungstic acid 1 mg/m3 TWA (as W) (listed under Tungsten, soluble compounds)

Personal Protective Equipment

Eyes:

Wear chemical splash goggles.

Skin:

Wear appropriate protective gloves 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:	Liquid
Color:	Orange
Odor:	Alcohol-like
pH:	No information found
Vapor Pressure:	40 mm Hg
Vapor Density:	1.5 (air=1)
Evaporation Rate:	1.4 (Butyl acetate=1)
Viscosity:	No information found
Boiling Point:	76.1-89-4°C
Freezing/Melting Point:	No information found
Decomposition Temperature:	No information found
Solubility in water:	Soluble.
Specific Gravity/Density:	0.789 @ 21°C
Molecular Formula:	Solution
Molecular Weight:	No information found

Section 10 - Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

High temperatures, ignition sources, excess heat, oxidizers, confined spaces

Incompatibilities with Other Materials

Strong oxidizing agents, strong acids, acids, alkali metals, ammonia, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, perchloric acid, silver nitrate, mercuric nitrate, potassium tert-butoxide, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, powdered aluminum, silver oxide, iodine heptafluoride, acetyl bromide, disulfuryl difluoride, tetrachlorosilane + water, acetyl chloride, powdered magnesium, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, potassium dioxide

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide, formaldehyde

Hazardous Polymerization

Has not been reported

Section 11 - Toxicological Information

RTECS:

CAS# 64-17-5: KQ6300000
CAS# 7732-18-5: ZC0110000
CAS# 67-63-0: NT8050000
CAS# 67-56-1: PC1400000
CAS# 3520-72-7: GE4455000
CAS# 12067-99-1: TH5650000

LD50/LC50:

CAS# 64-17-5:
Draize test, rabbit, eye: 500 mg Severe
Draize test, rabbit, eye: 500 mg/24H Mild
Draize test, rabbit, skin: 20 mg/24H Moderate
Inhalation, mouse: LC50 = 39 gm/m3/4H
Inhalation, rat: LC50 = 20000 ppm/10H
Oral, mouse: LD50 = 3450 mg/kg
Oral, rabbit: LD50 = 6300 mg/kg
Oral, rat: LD50 = 7060 mg/kg
Oral, rat: LD50 = 9000 mg/kg.

CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg.

CAS# 67-63-0:
Draize test, rabbit, eye: 100 mg Severe
Draize test, rabbit, eye: 10 mg Moderate
Draize test, rabbit, eye: 100 mg/24H Moderate
Draize test, rabbit, skin: 500 mg Mild
Inhalation, mouse: LC50 = 53000 mg/m3
Inhalation, rat: LC50 = 16000 ppm/8H
Inhalation, rat: LC50 = 72600 mg/m3
Oral, mouse: LD50 = 3600 mg/kg
Oral, mouse: LD50 = 3600 mg/kg
Oral, rabbit: LD50 = 6410 mg/kg
Oral, rat: LD50 = 5045 mg/kg
Oral, rat: LD50 = 5000 mg/kg
Skin, rabbit: LD50 = 12800 mg/kg.

CAS# 67-56-1:
Draize test, rabbit, eye: 40 mg Moderate
Draize test, rabbit, eye: 100 mg/24H Moderate
Draize test, rabbit, skin: 20 mg/24H Moderate
Inhalation, rabbit: LC50 = 81000 mg/m3/14H
Inhalation, rat: LC50 = 64000 ppm/4H
Oral, mouse: LD50 = 7300 mg/kg
Oral, rabbit: LD50 = 14200 mg/kg
Oral, rat: LD50 = 5600 mg/kg
Skin, rabbit: LD50 = 15800 mg/kg.

CAS# 3520-72-7:
Oral, rat: LD50 = >5 gm/kg.

CAS# 12067-99-1:
Oral, rat: LD50 = 3300 mg/kg.

Carcinogenicity:

CAS# 64-17-5
ACGIH: Not listed
California: Not listed
NTP: Not listed
IARC: Group 1 carcinogen

CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 67-63-0: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 67-56-1: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 3520-72-7: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 12067-99-1: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology:

Ethanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals.Prenatal exposure to ethanol is associated with a distinct pattern of congenital malformations that have collectively been termed the "fetal alcohol syndrome".

Teratogenicity:

There is no human information available. Methanol is considered to be a potential developmental hazard based on animal data. In animal experiments, methanol has caused fetotoxic or teratogenic effects without maternal toxicity.

Reproductive:

See actual entry in RTECS for complete information.

Mutagenicity:

See actual entry in RTECS for complete information.

Neurotoxicity:

No information found

Other:

Standard Draize Test(Skin, rabbit) = 20 mg/24H (Moderate) Standard Draize Test: Administration into the eye (rabbit) = 500 mg (Severe).

Section 12 - Ecological Information

Ecotoxicity:

Fish: Fathead Minnow: 29.4 g/L; 96 Hr; LC50 (unspecified)
Fish: Goldfish: 250 ppm; 11 Hr; resulted in death
Fish: Rainbow trout: 8000 mg/L; 48 Hr; LC50 (unspecified)
Fish: Rainbow trout: LC50 = 13-68 mg/L; 96 Hr.; 12 degrees C
Fish: Fathead Minnow: LC50 = 29400 mg/L; 96 Hr.; 25 degrees C, pH 7.63
Fish: Rainbow trout: LC50 = 8000 mg/L; 48 Hr.; Unspecified
Bacteria: Phytobacterium phosphoreum: EC50 = 51,000-320,000 mg/L; 30 minutes; Microtox test
Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @ 24-24.3°C
Fish: Rainbow trout: LC50 = 11200 mg/L; 24 Hr; Fingerling (Unspecified)
Bacteria: Phytobacterium phosphoreum: EC50 = 34900 mg/L; 5-30 min; Microtox test

When spilled on land it is apt to volatilize, biodegrade, and leach into the ground water, but no data on the rates of these processes could be found. Its fate in ground water is unknown. When released into water it will volatilize and probably biodegrade. It would not be expected to adsorb to sediment or bioconcentrate in fish.

Environmental:

When released to the atmosphere it will photodegrade in hours (polluted urban atmosphere) to an estimated range of 4 to 6 days in less polluted areas. Rainout should be significant.

Physical:

No information found

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 Part 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P Series Wastes

None of the components are on this list.

RCRA U Series Wastes

CAS# 67-56-1: waste number U154 (Ignitable waste).

Section 14 - Transport Information

	US DOT	Canadian TDG
Proper Shipping Name:	ALCOHOLS, N.O.S.	ALCOHOLS, N.O.S.
Hazard Class:	3	3
UN Number:	UN1987	UN1987
Packing Group:	II	II

USA RQ: CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

US Federal

TSCA

CAS# 64-17-5 is listed on the TSCA Inventory.
CAS# 7732-18-5 is listed on the TSCA Inventory.
CAS# 67-63-0 is listed on the TSCA Inventory.
CAS# 67-56-1 is listed on the TSCA Inventory.
CAS# 3520-72-7 is listed on the TSCA Inventory.
CAS# 12067-99-1 is listed on the TSCA Inventory.

Health and Safety Reporting List

CAS# 67-63-0: Effective 12/15/86, Sunset 12/15/96

Chemical Test Rules

CAS# 67-63-0: 40 CFR 799.2325

TSCA Section 12b

None of the components are on this list.

TSCA Significant New Use Rule (SNUR)

None of the components are on this list.

CERCLA Hazardous Substances and corresponding RQs

CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the components are on this list.

SARA Hazard Categories

CAS# 64-17-5: immediate, delayed, fire.
CAS# 67-63-0: immediate, delayed, fire.
CAS# 67-56-1: immediate, fire.
CAS# 12067-99-1: immediate, fire.

SARA Section 313

This material contains Isopropyl alcohol (CAS# 67-63-0, 4-5%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.
This material contains Methyl alcohol (CAS# 67-56-1, 4-5%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

Clean Air Act - Hazardous Air Pollutants (HAPs)

CAS# 67-56-1 is listed as a hazardous air pollutant (HAP).

Clean Air Act - Class 1 Ozone Depletors

None of the components are on this list.

Clean Air Act - Class 2 Ozone Depletors

None of the components are on this list.

Clean Water Act - Hazardous Substances

None of the components are on this list.

Clean Water Act - Priority Pollutants

None of the components are on this list.

Clean Water Act - Toxic Pollutants

None of the components are on this list.

OSHA - Highly Hazardous

None of the components are on this list.

OSHA - Specifically Regulated Chemicals

None of the components are on this list.

US State

State Right to Know

Ethyl alcohol can be found on the following state Right-to-Know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
Isopropyl alcohol can be found on the following state Right-to-Know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
Methyl alcohol can be found on the following state Right-to-Know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
No information found

California Prop 65

None of the components are on this list.

California No Significant Risk Level

None of the components are on this list.
None of the components are on this list.
None of the components are on this list.
None of the components are on this list.
None of the components are on this list.
None of the components are on this list.

European/International Regulations

European Labelling in Accordance with EC Directives:

Hazard Symbols: F XN
Risk Phrases: R 11 Highly flammable.
R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R 68/20/21/22 Harmful : possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
Safety Phrases: S 7 Keep container tightly closed.
S 9 Keep container in a well-ventilated place.
S 16 Keep away from sources of ignition - No smoking.
S 33 Take precautionary measures against static discharges.
S 36/37 Wear suitable protective clothing and gloves.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

No information found

United Kingdom Occupational Exposure Limits

No information found

United Kingdom Maximum Exposure Limits

No information found

Canadian DSL/NDSL

CAS# 64-17-5 is listed on Canada's DSL List.
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 67-63-0 is listed on Canada's DSL List.
CAS# 67-56-1 is listed on Canada's DSL List.
CAS# 3520-72-7 is listed on Canada's DSL List.
CAS# 12067-99-1 is listed on Canada's DSL List.

Canadian WHMIS Classifications

This product has a WHMIS classification of B2, D2A, D1B, D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 64-17-5 is listed on the Canadian Ingredient Disclosure List.
CAS# 67-63-0 is listed on the Canadian Ingredient Disclosure List.
CAS# 67-56-1 is listed on the Canadian Ingredient Disclosure List.
CAS# 12067-99-1 is not listed on the Canadian Ingredient Disclosure List.

Section 16 - Other Information

No information found
MSDS Creation Date: July 21, 2005
Revision Date: August 1, 2008

Material Safety Data Sheet

OG-6

This MSDS is intended for review and guidance in the receipt, storage, handling, use and disposal of product purchased from us, and for no other purpose. Use this product only as directed and in accordance with applicable instructions and warnings provided with the product. Please consult your institution's policies regarding use of this product. If you have obtained this MSDS other than in connection with the supply of this product from us, this MSDS should be consulted for general information only, and should not be relied upon for any purpose. As with the use of all hazardous materials, you should in all instances follow the guidance of the MSDS provided or available with the specific product purchased.