



M104-F224 FLAT BLACK LACQUER ENAMEL

MATERIAL SAFETY DATA SHEET

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Health: 2 Flammability: 4 Reactivity 0

PRODUCT NAME: M104-F224 FLAT BLACK LACQUER ENAMEL

I. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

REVISION DATE: 30/07/04
SUPERCEDES: 08/07/04
MSDS NO. M104-F224
OSHA HAZ. CLASS: Eye irritant. Neurotoxin - may cause nervous system damage.
Mucous membrane (respiratory tract) irritant.

II. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	%	CAS #	PEL
acetone	11-20	67-64-1	1000 ppm TWA; 2400 mg/m3 TWA
ethyl acetate	11-20	141-78-6	400 ppm TWA; 1400 mg/m3 TWA
propane	11-20	74-98-6	1000 ppm TWA; 1800 mg/m3 TWA
n-butyl acetate	11-20	123-86-4	150 ppm TWA; 710 mg/m3 TWA
toluene	1-10	108-88-3	200 ppm TWA; C 300 ppm
isobutane	1-10	75-28-5	No PEL established
isopropanol	1-10	67-63-0	400 ppm TWA; 980 mg/m3 TWA
Cellulose Nitrate, Cellulose Ester	1-10	9004-70-0	No PEL established
isobutyl isobutyrate	1-10	97-85-8	No PEL established
rosin ester	1-10	8050-31-5	No PEL established
diisononyl phthalate	1-10	68515-48-0	No PEL established
carbon black	<1	1333-86-4	3.5 mg/m3 TWA
butanol	<1	78-92-2	150 ppm TWA; 450 mg/m3 TWA

III. HAZARDS IDENTIFICATION

Routes of Entry: Absorption., Inhalation, ingestion, skin, eyes.
Medical Conditions Aggravated: Skin disease including eczema and sensitization. Respiratory disease including asthma and bronchitis. Eye disease. Kidney disease. Liver disease.

Immediate (Acute) Health Effects

Inhalation: Irritation may be delayed for several hours. Can cause severe respiratory irritation, dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.

Skin Contact: Substance causes moderate skin irritation. Continued or prolonged contact may irritate the skin and cause a skin rash (dermatitis). Can cause minor skin irritation, defatting, and dermatitis.

Eye Contact: Can cause irritation. Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue. Contact with the eyes may cause moderate to severe eye injury. Eye contact may result in tearing and reddening, but not likely to permanently injure eye tissue. Temporary vision impairment (cloudy or blurred vision) is possible.

Skin Absorption: Can be absorbed through the skin but exposure must be extensive before adverse health effects occur. Harmful if absorbed through the skin. May cause severe irritation and systemic damage. No absorption hazard in normal industrial use.

Ingestion: Harmful if swallowed. Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal. Minimal toxicity Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea.

Target Organ Acute Toxicity:

Acetone	respiratory system, skin, eyes, CNS
Ethylacetate	eyes, skin, respiratory system
Propane	CNS
n-Butyl acetate	eyes, skin, respiratory system, CNS
Toluene	CNS, liver, kidneys, skin, eyes, respiratory system
Isobutane	CNS
Isopropyl alcohol	eyes, skin, respiratory system
Carbon black	respiratory system, eyes, lymphatic cancer
n-Butyl alcohol	eyes, CNS, skin, respiratory system

Long-Term (Chronic) Health Effects:

Carcinogenicity: ACGIH. IARC. NIOSH. NTP. OSHA. Contains a substance that is a probable cancer hazard based on human studies.

Reproductive and Developmental Toxicity: Possible reproductive hazard.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.

Inhalation: Upon prolonged and/or repeated exposure, can cause severe respiratory irritation, dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.

Skin Contact: Prolonged or repeated contact may cause irritation. Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Eye Contact: Upon prolonged or repeated contact, can cause moderate to severe eye injury. Eye contact may result in tearing and reddening, but not likely to permanently injure eye tissue. Temporary vision impairment (cloudy or blurred vision) is possible.

Skin Absorption: Upon prolonged or repeated exposure, harmful if absorbed through the skin. May cause severe irritation and systemic damage.

Target Organ Chronic Toxicity: Respiratory Tract. Skin. Skin. Eyes. Nervous System. Respiratory Tract. Nervous System. Eyes. Kidneys. Liver.

Supplemental Health Hazard Information: No additional health information available.

IV. FIRST AID

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.

Eyes: Immediately flush eyes with plenty of water. Get medical attention, if irritation persists. Immediately flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention and monitor the eye daily as advised by your physician.

Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists. Wash with soap and water. Get medical attention if irritation develops or persists.

Ingestion: First aid is normally not required. No hazard in normal industrial use. Do not induce vomiting. Seek medical attention if symptoms develop. Provide medical care provider with this MSDS.

Notes to MD: No additional first aid information available.

V. FIRE FIGHTING MEASURES

Flammability Summary:

Flash Point: -144 (CALC.) °F
Upper Flammable/Explosive Limit, % in air: 12.8 @ 77° F
Lower Flammable/Explosive Limit, % in air: 1.4 @ 77° F

Fire Hazards: Flammable Liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Vapors may be ignited by heat, sparks, flames or other sources of ignition at or above the low flash point giving rise to a Class B fire. Vapors are heavier than air and may travel to a source of ignition and flash back.

Extinguishing Media: Use alcohol resistant spray, Carbon Dioxide, water spray or dry chemical to extinguish a fire involving this chemical. Flammable component(s) of this material may be lighter than water and burn while floating on the surface. H₂O, CO₂, dry chemical, foam. Carbon dioxide Alcohol foam Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water spray or fog may also be effective for extinguishing if swept across the base of the fire. Water can also be used to absorb heat and keep exposed material from being damaged by fire.

Fire Fighting Instructions: Flammable component(s) of this material may be lighter than water and burn while floating on the surface. Do not enter fire area without proper protection including self-contained toxic breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Flammable component(s) of this material may be lighter than water and burn while floating on the surface. Use water spray/fog for cooling.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide Hydrogen cyanide Nitrogen containing gases
Toxic gases

VI. ACCIDENTAL RELEASE MEASURES

Health Consideration for Spill Response: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section VIII of this MSDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Spill Mitigation Procedures General Methods: Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section VIII at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

VII. HANDLING AND STORAGE

Handling: Use spark-proof tools and explosion-proof equipment. Wash thoroughly after handling. Avoid contact with material. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Harmful or irritating material. Avoid contact and avoid breathing the material. Use only in a well ventilated area.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a cool place in original container and protect from sunlight. Keep container closed when not in use. Do not store in direct sunlight. Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed.

VIII. ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT

Engineering Controls: Ventilation should effectively remove and prevent buildup of any vapor/mist/fume generated from the handling of this product. Explosion proof exhaust ventilation should be used. Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Protective Equipment

Respiratory Tract: Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2-1992). A written respiratory protection program, including provisions for medical certification, training, fit testing, exposure assessments, maintenance, inspection, cleaning, and convenient, sanitary storage should be implemented.

Eyes: Wear chemically resistant safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Do not wear contact lenses. Have an eye wash station available.

Skin: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

IX. PHYSICAL DATA

Physical State: COLORED LIQUID
Odor: STRONG SOLVENT
Solids Vol %: 6.4092
Solids Wt %: 10.2066
Material VOC lbs/gal: 4.5305
Material VOC gms/l: 544.07
Coatings VOC lbs/gal: 5.5758
Coatings VOC gms/l: 669.599
Weight per gallon: 6.4369

X. STABILITY AND REACTIVITY

Stability Information: Stable. Normally stable. Keep away from heat, sparks and flame.

Conditions to Avoid: Avoid: heat, sparks, flame and oxidizing agents. High temperatures. None known.

Chemical Incompatibility: Strong oxidizing agents. Strong acids. Strong alkalis. Amines. Oxidizing materials. Acids. Acetic anhydride. Peroxides.

Hazardous Polymerization: Hazardous Polymerization will not occur.

XI. TOXICOLOGICAL INFORMATION

Chemical Name	CAS Number	LD50/LC50
Acetone	67-64-1	Inhalation LC50 Rat : 50100 mg/m ³ /8H; Inhalation LC50 Mouse : 44 gm/m ³ /4H; Oral LD50 Rat : 5800 mg/kg; Oral LD50 Mouse : 3 gm/kg
Acetic acid, ethyl ester	141-78-6	Inhalation LC50 Rat : 200 gm/m ³ ; Inhalation LC50 Mouse : 45 gm/m ³ /2H; Oral LD50 Rat : 5620 mg/kg; Oral LD50 Mouse : 4100 mg/kg; Dermal LD50 Rabbit : >20 mL/kg
Acetic acid, butyl ester	123-86-4	Inhalation LC50 Rat : 2000 ppm/4H; Inhalation LC50 Mouse : 6 gm/m ³ /2H; Oral LD50 Rat : 10768 mg/kg; Oral LD50 Mouse : 6 gm/kg; Dermal LD50 Rabbit : >17600 mg/kg
Toluene	108-88-3	Inhalation LC50 Rat : 49 gm/m ³ /4H; Inhalation LC50 Mouse : 400 ppm/24H; Oral LD50 Rat : 636 mg/kg; Dermal LD50 Rabbit : 14100 uL/kg
Propane, 2-methyl- Isopropyl alcohol	75-28-5 67-63-0	Inhalation LC50 Rat : 57 pph/15M Inhalation LC50 Rat : 16000 ppm/8H; Oral LD50 Rat : 5045 mg/kg; Oral LD50 Mouse : 3600 mg/kg; Dermal LD50 Rabbit : 12800 mg/kg
Nitrocellulose	9004-70-0	Oral LD50 Rat : >5 gm/kg; Oral LD50 Mouse : >5 gm/kg
Isobutyric acid, isobutyl ester	97-85-8	Inhalation LC50 Rat : 5000 ppm/6H; Oral LD50 Rat : 12800 mg/kg; Dermal LD50 Rabbit : >8600 mg/kg
Carbon black	1333-86-4	Oral LD50 Rat : >15400 mg/kg; Dermal LD50 Rabbit : >3 gm/kg
sec-Butyl alcohol	78-92-2	Inhalation LC50 Rat : 8000 ppm/4H; Oral LD50 Rat : 790 mg/kg; Oral LD50 Mouse : 2680 mg/kg; Dermal LD50 Rabbit : 3400 mg/kg

XII. ECOLOGICAL INFORMATION

Overview (for ingredients): Keep out of waterways. Moderate ecological hazard. This product may be dangerous to plants and/or wildlife.

XIII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product: The waste may be a listed and/or characteristic hazardous waste. The waste may be a listed hazardous waste. The waste may be a "special" waste. Spent or discarded material is a hazardous waste.

Disposal Methods: Comply with all Local, State, Federal, and Provincial Environmental Regulations. Dispose of by incineration following Federal, State, Local, or Provincial regulations.

Potential EPA Waste Codes: If discarded, this product is considered a RCRA ignitable waste, D001.

Components Subject to USEPA Land Disposal Restrictions:

Acetone	67-64-1	19.25 %
Ethylacetate	141-78-6	18.8 %
Toluene	108-88-3	7.00 %
n-Butyl alcohol	78-92-2	0.13 %

XIV. TRANSPORTATION INFORMATION

DOT AEROSOLS, FLAMMABLE, 2.1, UN 1950
See 49CFR 172.101 for Special Provisions, Packaging, and Quantity Limitations.

XV. REGULATORY INFORMATION

Chemical Name	Regulation	CASRN	%
Toluene	SARA 313 Reportable:	108-88-3	7.00
Isopropyl alcohol	SARA 313 Reportable:	67-63-0	4.69
sec-Butyl alcohol	SARA 313 Reportable:	78-92-2	0.13
Carbon Black	California Proposition 65 Cancer List:	1333-86-4	0.57
Toluene	California Proposition 65 Developmental Toxicity:	108-88-3	7.00
Ethyl alcohol	California Proposition 65 Developmental Toxicity:	64-17-5	0.57
acetone	New Jersey Right To Know:	67-64-1	19.25
ethyl acetate	New Jersey Right To Know:	141-78-6	18.8
propane	New Jersey Right To Know:	74-98-6	14.73
n-butyl acetate	New Jersey Right To Know:	123-86-4	14.55
toluene	New Jersey Right To Know:	108-88-3	7.00

XVI. ADDITIONAL INFORMATION

Other Information: IMPORTANT: WHILE THE DESCRIPTIONS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU PERFORM AN ASSESSMENT TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED, DATA OR INFORMATION SET FORTH. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, OR DATA PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, THE DESCRIPTIONS, DATA AND INFORMATION FURNISHED HEREUNDER ARE GIVEN GRATIS. NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DATA AND INFORMATION GIVEN ARE ASSUMED. ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

MSDS glossary.