



Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name Phenolphthalein Indicator Solution, 1% W/V in alcohol **Product Code** VW3341

Manufacturer EMD Chemicals Inc.
P.O. Box 70
480 Democrat Road
Gibbstown, NJ 08027
Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.

Effective Date 11/24/2003
Print Date 5/14/2004

For More Information Call

856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call

800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym None.

Material Uses Analytical reagent.

Chemical Family Solution.

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
Methanol	67-56-1	10
Phenolphthalein	77-09-8	1
Ethanol	64-17-5	90

+ Section 3. Hazards Identification

Physical State and Appearance Liquid.

Emergency Overview DANGER!
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
MAY BE FATAL IF SWALLOWED.
MAY CAUSE BLINDNESS IF SWALLOWED.
CANNOT BE MADE NON-POISONOUS.
SUSPECT CANCER HAZARD.
CONTAINS MATERIAL WHICH MAY CAUSE CANCER.
BIRTH DEFECT HAZARD.
CONTAINS MATERIAL WHICH CAN CAUSE BIRTH DEFECT.
HARMFUL IF INHALED.
CAUSES EYE IRRITATION.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:
BLOOD, REPRODUCTIVE SYSTEM, LIVER, GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.

WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

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Routes of Entry Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

Eyes Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.

Skin Non-permeator by skin.

Inhalation Hazardous in case of inhalation.

Ingestion Extremely hazardous in case of ingestion. May be fatal or cause blindness if swallowed.

Potential Chronic Health Effects

Carcinogenic Effects Classified 2B (Possible for human.) by IARC [Phenolphthalein]. Classified 2 (Reasonably Anticipated To Be Human Carcinogens.) by NTP [Phenolphthalein].

Additional information See Toxicological Information (section 11)

Medical Conditions Aggravated by Overexposure: Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

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

Ingestion If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flammability of the Product Product will burn.

Auto-ignition Temperature The lowest known value is 398.9°C (750°F) (ETHANOL).

Flash Points Closed cup: 12.222°C (54°F).

Flammable Limits The greatest known range is LOWER: 6% UPPER: 36.5% (Methanol)

Products of Combustion These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances Highly flammable in presence of open flames, sparks and static discharge, of heat, of oxidizing materials.

Explosion Hazards in Presence of Various Substances **Risks of explosion of the product in presence of static discharge:**
Highly flammable in presence of open flames, sparks and static discharge.
Explosive in presence of open flames, sparks and static discharge.

Risks of explosion of the product in presence of mechanical impact: No.

Fire Fighting Media and Instructions SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Protective Clothing (Fire) Be sure to use an approved/certified respirator or equivalent.

Special Remarks on Fire Hazards Vapor may travel considerable distance to source of ignition and flash back. (ETHANOL)

Special Remarks on Explosion Hazards Not available.

Section 6. Accidental Release Measures

Small Spill and Leak Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill and Leak Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Spill Kit Information The following EMD Chemicals Inc. SpillSolv® absorbent is recommended for this product: SX1330 Solvent Treatment Kit

Section 7. Handling and Storage

Handling Keep away from heat, sparks and flame. Keep container closed. Avoid breathing vapors or spray mists. Do not get in eyes, on skin, or on clothing. Do not ingest.

Storage Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection

Eyes Splash goggles.

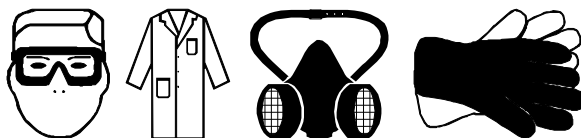
Body Lab coat.

Respiratory Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Hands Gloves.

Feet Not applicable.

Protective Clothing (Pictograms)



Personal Protection in Case of a Large Spill Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name

Exposure Limits

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Methanol

ACGIH (United States, 1994). Skin

TWA: 262 mg/m³

STEL: 328 mg/m³

OSHA (United States, 1989). Skin

TWA: 260 mg/m³

STEL: 325 mg/m³

ACGIH (United States, 1994). Skin

STEL: 328 mg/m³ 15 minute(s).

STEL: 250 ppm 15 minute(s).

TWA: 262 mg/m³ 8 hour(s).

TWA: 200 ppm 8 hour(s).

NIOSH REL (United States, 1994). Skin

STEL: 325 mg/m³ 15 minute(s).

STEL: 250 ppm 15 minute(s).

TWA: 260 mg/m³ 10 hour(s).

TWA: 200 ppm 10 hour(s).

OSHA Final Rule (United States, 1989). Skin

STEL: 325 mg/m³ 15 minute(s).

STEL: 250 ppm 15 minute(s).

TWA: 260 mg/m³ 8 hour(s).

TWA: 200 ppm 8 hour(s).

Phenolphthalein

Not available.

Ethanol

NIOSH REL (United States, 2000).

TWA: 1900 mg/m³ 10 hour(s).

TWA: 1000 ppm 10 hour(s).

OSHA Final Rule (United States, 1989).

TWA: 1900 mg/m³ 8 hour(s).

TWA: 1000 ppm 8 hour(s).

AUVA (Austria, 1995).

Spitzenbegrenzung: 3800 mg/m³ 3 times per shift, 60 minute(s).

Spitzenbegrenzung: 2000 ML/M3 3 times per shift, 60 minute(s).

TWA: 1900 mg/m³ 8 hour(s).

TWA: 1000 ML/M3 8 hour(s).

NOHSC (Australia, 1995).

TWA: 1880 mg/m³ 8 hour(s).

TWA: 1000 ppm 8 hour(s).

Lijst Grenswaarden (Belgium, 1998).

VL: 1907 mg/m³ 8 hour(s).

VL: 1000 ppm 8 hour(s).

SUVA (Switzerland, 1997).

MAK: 1900 mg/m³ 8 hour(s).

MAK: 1000 ML/M3 8 hour(s).

Ministry of Health (CL, 1992).

TWA: 1500 mg/m³ 8 hour(s).

TWA: 800 ppm 8 hour(s).

MAK-Werte Liste (Germany, 1998).

Spitzenbegrenzung: 1920 mg/m³ 4 times per shift, 30 minute(s).

Spitzenbegrenzung: 1000 ML/M3 4 times per shift, 30 minute(s).

TWA: 960 mg/m³ 8 hour(s).

TWA: 500 ML/M3 8 hour(s).

TRGS900 (Germany, 1999).

Spitzenbegrenzung: 7600 mg/m³

Spitzenbegrenzung: 4000 ML/M3

TWA: 1900 mg/m³ 8 hour(s).

TWA: 1000 ML/M3 8 hour(s).

Arbejdstilsynet (Denmark, 1996).

GV: 1900 mg/m³ 8 hour(s).

GV: 1000 ppm 8 hour(s).

Tyterveyslaitos (Finland, 1998).

STEL: 2500 mg/m³ 15 minute(s).

STEL: 1300 ppm 15 minute(s).

TWA: 1900 mg/m³ 8 hour(s).

TWA: 1000 ppm 8 hour(s).

INRS (France, 1999).

VLE: 9500 mg/m³ 15 minute(s).

VLE: 5000 ppm 15 minute(s).

VME: 1900 mg/m³ 8 hour(s).

VME: 1000 ppm 8 hour(s).

EH40-OES (United Kingdom (UK), 2000).

TWA: 1920 mg/m³ 8 hour(s).

TWA: 1000 ppm 8 hour(s).

NAOSH (Ireland, 1999).

OEL: 1900 mg/m³ 8 hour(s).

OEL: 1000 ppm 8 hour(s).

Ministry of Labour (KR, 1997).

TWA: 1900 mg/m³ 8 hour(s).

TWA: 1000 ppm 8 hour(s).

Secretary of Work and Social security (MX, 1994).

CPT: 1900 mg/m³ 8 hour(s).

CPT: 1000 ppm 8 hour(s).

Nationale MAC-lijst (Netherlands, 2000).

TGG 8 uur: 1000 mg/m³ 8 hour(s).

TGG 8 uur: 500 ppm 8 hour(s).

NZ OSH (NZ, 1994).

TWA: 1880 mg/m³ 8 hour(s).

TWA: 1000 ppm 8 hour(s).

AFS (Sweden, 1996).

TGV: 1900 mg/m³

TGV: 1000 ppm

NGV: 1000 mg/m³ 8 hour(s).

NGV: 500 ppm 8 hour(s).

ACGIH TLV (United States, 2000).

TWA: 1880 mg/m³ 8 hour(s).

TWA: 1000 ppm 8 hour(s).

Section 9. Physical and Chemical Properties

Odor	Alcohol like.
Color	Colorless.
Physical State and Appearance	Liquid.
Molecular Weight	Not applicable.
Molecular Formula	Not applicable.
pH	Not available.
Boiling/Condensation Point	The lowest known value is 64.55°C (148.2°F) (Methanol). Weighted average: 77.02°C (170.6°F)
Melting/Freezing Point	May start to solidify at -97.72°C (-143.9°F) based on data for: Methanol. Weighted average: -112.23°C (-170°F)
Specific Gravity	Weighted average: 0.79 (Water = 1)

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Vapor Pressure	The highest known value is 12.9 kPa (97 mmHg) (@ 20°C) (Methanol).
Vapor Density	The highest known value is 1.6 (Air = 1) (ETHANOL). Weighted average: 1.55 (Air = 1)
Volatility	99.9% (v/v). (Methanol.)
Odor Threshold	The lowest known value is 100 ppm (Methanol)
Evaporation Rate	The highest known value is 5.91 (METHANOL) Weighted average: 2.12 compared to (n-BUTYL ACETATE=1)
VOC	100 (%)
LogK_{ow}	Not available.
Solubility	Soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Highly reactive with oxidizing agents. Slightly reactive to reactive with metals, acids.
Rem/Incompatibility	Incompatible with Strong Bases. (Phenolphthalein)
Hazardous Decomposition Products	carbon oxides (CO, CO ₂)
Hazardous Polymerization	Will not occur.

+ Section 11. Toxicological Information

RTECS Number:	Methanol Phenolphthalein ETHANOL	PC1400000 SM8380000 KQ6300000
Toxicity	Acute oral toxicity (LD ₅₀): 3450 mg/kg [Mouse]. (Ethanol). Acute dermal toxicity (LD ₅₀): 15800 mg/kg [Rabbit]. (Methanol). Acute toxicity of the vapor (LC ₅₀): 64000 ppm 4 hour(s) [Rat]. (Methanol).	
Chronic Effects on Humans	CARCINOGENIC EFFECTS: Classified 2B (Possible for human.) by IARC [Phenolphthalein]. Classified 2 (Reasonably Anticipated To Be Human Carcinogens.) by NTP [Phenolphthalein]. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [PROVEN] [Ethanol].	
Acute Effects on Humans	Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. Non-permeator by skin. Hazardous in case of inhalation. Extremely hazardous in case of ingestion. May be fatal if swallowed.	
Synergetic Products (Toxicologically)	Not available.	
Irritancy	Draize Test: Not available.	
Sensitization	Not available.	
Carcinogenic Effects	Classified 2B (Possible for human.) by IARC [Phenolphthalein]. Classified 2 (Reasonably Anticipated To Be Human Carcinogens.) by NTP [Phenolphthalein].	

Toxicity to Reproductive System Classified Reproductive system/toxin/female, Reproductive system/toxin/male [PROVEN] [ETHANOL].

Teratogenic Effects Not available.

Mutagenic Effects Not available.

Section 12. Ecological Information

Ecotoxicity Not available.

BOD5 and COD Not available.

Toxicity of the Products of Biodegradation The products of degradation are less toxic than the product itself.

Section 13. Disposal Considerations

EPA Waste Number D001

Treatment Incineration, fuels blending or recycle. Contact your local permitted waste disposal site (TSD) for permissible treatment sites. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations.

Section 14. Transport Information

DOT Classification Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S. (ETHANOL, METHANOL)
Hazard Class: 3
UN number: UN1993
Packing Group: II
RQ: Not applicable.

TDG Classification Not available.

IMO/IMDG Classification Not available.

ICAO/IATA Classification Not available.

Section 15. Regulatory Information

U.S. Federal Regulations TSCA 8(b) inventory: Methanol; Phenolphthalein; Ethanol
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: METHANOL; ETHANOL
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: METHANOL: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; ETHANOL: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
SARA 313 toxic chemical notification and release reporting: Methanol 10%
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

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-2A: Material causing other toxic effects (VERY TOXIC).
Class D-2B: Material causing other toxic effects (TOXIC).

CEPA DSL: Methanol; Phenolphthalein; Ethanol

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations

EINECS

Methanol 200-659-6
Phenolphthalein 201-004-7
Ethanol 200-578-6

DSCL (EEC)

R11- Highly flammable.
R38- Irritating to skin.
R41- Risk of serious damage to eyes.

International Lists

Australia (NICNAS): Methanol; Phenolphthalein; Ethanol

China: Phenolphthalein

Germany water class: Ethanol

Japan (MITI): Methanol; Phenolphthalein; Ethanol

Korea (TCCL): Methanol; Phenolphthalein; Ethanol

Philippines (RA6969): Methanol; Phenolphthalein; Ethanol

China: Phenolphthalein

State Regulations

Pennsylvania RTK: Methanol: (environmental hazard, generic environmental hazard); Ethanol: (generic environmental hazard)

Massachusetts RTK: Methanol; Ethanol

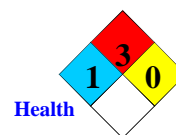
New Jersey: Methanol; Phenolphthalein; Ethanol

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Phenolphthalein

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Phenolphthalein

Section 16. Other Information

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



Fire Hazard

Reactivity

Specific Hazard

**Changed Since Last
Revision**



Notice to Reader

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The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.