

1. Identification

Product identifier **MARINER**

Other means of identification

SDS number 545N18A

Product code HIL00702

Recommended use Bathroom Cleaner

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Manufacturer

Company name HILLYARD INDUSTRIES

Address 302 North Fourth St.
St. Joseph, MO 64501

Contact person Regulatory Affairs

Telephone number (816) 233-1321 (Ext. 8285)

Fax (816) 383-8485

E-mail regulatoryaffairs@hillyard.com

Emergency telephone # (800) 424-9300
(Only in the event of chemical emergency involving a spill, leak, fire, exposure or accident involving chemicals)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Acute toxicity, oral	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

Environmental hazards

Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 3

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. Get immediate medical advice/attention. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.

Storage Store locked up.

Disposal	Buyer assumes all risk and liability associated with disposal of this product (original concentration or dilution) in violation of applicable law in compliance with applicable federal, state and local requirements.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	Do not get in eyes, on skin, or on clothing. Use With Adequate Ventilation. Avoid breathing vapors or spray mist. Open windows and doors, use exhaust fans or other means to insure fresh air entry during application and drying. Personal Protective Equipment: When there is a danger of contact with the concentrate, use chemical safety goggles, impervious gloves, and protective clothing. Do not take internally. Keep container closed when not in use.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
1-Butoxy-2-propanol		5131-66-8	10 - < 20
Citric Acid		77-92-9	5 - < 10
Alcohols (C12-15 In, Saturated) Ethoxylate		68131-39-5	3 - < 5
Alcohols, C9-11, ethoxylated		68439-46-3	3 - < 5
Benzyl Acetate		140-11-4	0.01
1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER		84-66-2	0.003
Other components below reportable levels			70 - < 80

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

This product is miscible in water. Should not be released into the environment.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (CAS 84-66-2)	TWA	5 mg/m3
Benzyl Acetate (CAS 140-11-4)	TWA	10 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (CAS 84-66-2)	TWA	5 mg/m3

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Impervious boots and aprons where splashing of concentrate is a problem; otherwise, use uniforms or coveralls.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	Clear, blue liquid
Physical state	Liquid.
Form	Liquid.
Color	Blue
Odor	Floral fragrance
Odor threshold	Not available
pH	1 - 1.5
Melting point/freezing point	Not applicable / Not available
Initial boiling point and boiling range	208 °F (97.78 °C)
Flash point	> 200.0 °F (> 93.3 °C) Closed Cup
Evaporation rate	< 1 (ethyl ether = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	16.99 mm Hg
Vapor density	1.32 AIR=1
Relative density	1.0952 at 77°F
Solubility(ies)	
Solubility (water)	100 % Complete
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Density	9.12 lb/gal
Percent volatile	69 - 71 %
VOC (Weight %)	9.83 % (conc.)

10. Stability and reactivity

Reactivity	Reacts violently with strong alkaline substances. This product may react with reducing agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Do not mix with other chemicals. Contact with incompatible materials.
Incompatible materials	Bases. Reducing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects**Acute toxicity** Harmful if swallowed.

Product	Species	Test Results
MARINER		
Acute		
<i>Dermal</i>		
LD50	Guinea pig	22026.4316 ml/kg estimated
	Rabbit	62731.7188 mg/kg estimated
		3480.1763 ml/kg estimated
<i>Oral</i>		
LD50	Guinea pig	1762.1145 g/kg estimated
	Mouse	42482.9414 mg/kg estimated
	Rabbit	20120 g/kg estimated
	Rat	38287.7227 mg/kg estimated

Components	Species	Test Results
1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (CAS 84-66-2)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 22400 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 4.64 mg/l, 6 Hours
<i>Oral</i>		
LD50	Rat	9500 - 31000 mg/kg

Benzyl Acetate (CAS 140-11-4)

Acute		
<i>Oral</i>		
LD50	Rat	2490 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes severe skin burns and eye damage.**Serious eye damage/eye irritation** Causes serious eye damage.**Respiratory or skin sensitization****Respiratory sensitization** Not a respiratory sensitizer.**Skin sensitization** This product is not expected to cause skin sensitization.**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.**Carcinogenicity** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.**IARC Monographs. Overall Evaluation of Carcinogenicity**

Benzyl Acetate (CAS 140-11-4) 3 Not classifiable as to carcinogenicity to humans.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.**Specific target organ toxicity - single exposure** Not classified.**Specific target organ toxicity - repeated exposure** Not classified.**Aspiration hazard** Prolonged inhalation may be harmful.**Chronic effects** Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects. Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Product	Species		Test Results
MARINER			
Aquatic			
Crustacea	EC50	Daphnia	94.9102 mg/l, 48 hours estimated
Fish	LC50	Fish	131.0501 mg/l, 96 hours estimated
Components	Species		Test Results
1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (CAS 84-66-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	86 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	12 mg/l, 96 hours
Alcohols (C12-15 In, Saturated) Ethoxylate (CAS 68131-39-5)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	0.37 - 0.43 mg/l, 48 hours
Fish	LC50	Channel catfish (Ictalurus punctatus)	1.04 - 1.39 mg/l, 96 hours
Alcohols, C9-11, ethoxylated (CAS 68439-46-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	2.9 - 8.5 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	6 - 12 mg/l, 96 hours
Benzyl Acetate (CAS 140-11-4)			
Aquatic			
Fish	LC50	Medaka, high-eyes (Oryzias latipes)	3.48 - 4.6 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER	2.47
Benzyl Acetate	1.96

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number UN3266

UN proper shipping name	Corrosive Liquid, Acidic, Inorganic, n.o.s. (PHOSPHORIC ACID)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB3, T7, TP1, TP28
Packaging exceptions	154
Packaging non bulk	202
Packaging bulk	241

DOT



General information PACKAGES 1 GALLON AND SMALLER ARE SHIPPED LIMITED QUANTITY OR ORM-D
This material is regulated under IATA and IMDG regulations. Contact manufacturer for shipping instructions.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER Listed.
(CAS 84-66-2)

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.

US. Massachusetts RTK - Substance List

1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (CAS 84-66-2)

US. New Jersey Worker and Community Right-to-Know Act1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (CAS 84-66-2)
Benzyl Acetate (CAS 140-11-4)**US. Pennsylvania Worker and Community Right-to-Know Law**

1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (CAS 84-66-2)

US. Rhode Island RTK

1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (CAS 84-66-2)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	02-13-2015
Revision date	03-16-2016
Version #	02
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0

Disclaimer	No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose, or of any nature are made with respect to the product(s) or information contained in this material safety data sheet. The information and recommendations contained in this Material Safety Data Sheet are supplied pursuant to 29 CFR 1910.1200 of the Occupational Safety and Health Standards Hazard Communication Rule. All information contained herein is presented in good faith and is believed to be appropriate and accurate. The buyer or user assumes all risks associated with the use, misuse or disposal of this product. The buyer or user is responsible to comply with all federal, state or local regulations concerning the use, misuse or disposal of these products.
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Revision Information	Product and Company Identification: Product and Company Identification Physical & Chemical Properties: Multiple Properties Toxicological Information: Toxicological Data Transport information: General information GHS: Classification
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