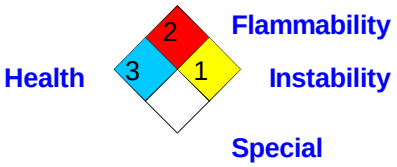
enthone

Material Safety Data Sheet

Material Safety Data Sheet

Emergency phone: CHEMTREC Number (800) 424-9300



Health	3
Fire hazard	2
Reactivity	1
Personal protection	C

Section 1. Chemical product and company identification

Product name : **ENTHONE® CATALYST B-13/28**
Product code : 135207
Material uses : Specialty chemicals for the electronics and surface finishing industries.
Manufacturer :

Enthone Inc
350 Frontage Road
West Haven, CT 06516
Phone: (203) 799-4917
Fax: (203) 799-8179
www.cooksonelectronics.com

Enthone OMI deMexico S.A. de C.V.
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Prepared by : T. Maturo

Section 2. Composition, Information on Ingredients

Name	CAS number	% by weight
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	40-50
2-butoxyethanol	111-76-2	40-50

Any component not listed in Section 2 is non-regulated or present in the product in concentrations below legal disclosure limits

All ingredients comply with applicable rules or orders under United States TSCA and Canadian CEPA regulations.

Section 3. Hazards identification

Physical state : Liquid.
Odor : Amine like.
Emergency overview : Danger!

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CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS.
HARMFUL IF INHALED.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED.
MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LUNGS, NERVOUS SYSTEM, LIVER, MUCOUS MEMBRANES, BLADDER, RESPIRATORY TRACT, SKIN, EYES, CENTRAL NERVOUS SYSTEM.
POSSIBLE CANCER HAZARD
CONTAINS MATERIAL WHICH MAY CAUSE CANCER BASED ON ANIMAL DATA.
COMBUSTIBLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FIRE.

Do not ingest. Do not get in eyes, on skin or clothing. Do not breathe vapor or mist. Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Risk of cancer depends on duration and level of exposure.

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Corrosive to eyes.

Skin contact : Harmful in contact with skin. Corrosive to the skin. May cause sensitization by skin contact.

Inhalation : Toxic by inhalation. Corrosive to the respiratory system.

Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.

Potential chronic health effects

Target organs : May cause damage to the following organs: blood, kidneys, lungs, the nervous system, liver, mucous membranes, bladder, upper respiratory tract, skin, eyes, central nervous system (CNS).

Over-exposure signs/symptoms : **2,4,6-Tris(dimethylaminomethyl)phenol**: Eye contact can result in corneal damage or blindness. May cause central nervous system effects.- headache, nausea/vomiting, dizziness/vertigo, mental confusion/disorientation and breathing difficulty-shortness of breath. Ingestion: May cause burns to mouth, throat and stomach. Over-exposure signs/symptoms: respiratory tract damage.
2-butoxyethanol: Inhalation: coughing, headache, abdominal cramps/pain, nausea/vomiting, diarrhea, shortness of breath, loss of consciousness/coma. Narcotic in high concentrations. Causes damage to the following organs: kidneys, liver, heart, and bone marrow. Ingestion: Can cause gastrointestinal disturbances. Symptoms similar to those listed under inhalation. Skin: pain, swelling, Defatting to the skin. and skin lesion/eczema. 2-butoxyethanol and its acetate are readily absorbed through the skin and will cause harmful effect on the blood. Symptoms similar to those listed under inhalation. Eyes: blinking, redness or swelling and Possible corneal damage.

Carcinogenicity : Classified A3 (Proven for animal.) by ACGIH [2-butoxyethanol]. Classified 3 (Not classifiable for human.) by IARC [2-butoxyethanol].

Special remarks on chronic effects on humans **See toxicological Information (section 11)**

Section 4. First aid measures

First aid

Eye contact : Provide a readily accessible eyewash facility and quick drench safety shower. Provide a readily accessible eyewash facility and quick drench safety shower. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention immediately. Get medical attention immediately.

Skin contact : Evacuate the victim to a safe area as soon as possible. Ensure that eyewash stations and safety showers are proximal to the work-station location. In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Inhalation : If inhaled, remove to fresh air. If exposed person is not breathing, give artificial respiration or oxygen applied by trained personnel. Get medical attention.

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Ingestion : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If fumes are still suspected to be present, the rescuer should wear an appropriate mask or a self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing, or wear gloves. Wear suitable protective clothing.

Section 5. Fire fighting measures

NFPA Hazard identification number Flammability : 2

Auto-ignition temperature : The lowest known value is 244°C (471.2°F) (2-butoxyethanol).

Flash point : Closed cup: 68.33°C (155°F).

Flammable limits : Not available.

Products of combustion : These products are carbon oxides (CO, CO_2), nitrogen oxides (NO, NO_2...).

Fire hazards in presence of various substances : Flammable in presence of open flames, sparks and static discharge, of heat.

Special remarks on fire hazards : **2,4,6-Tris(dimethylaminomethyl)phenol**: Specific hazard: May Form Ammonia. and nitrogen oxides (NO, NO_2...) gas.

Explosion hazards in presence of various substances. : Not available.

Fire fighting media and instructions : In case of fire, use water spray (fog), foam, dry chemicals, or CO_2.

Combustible liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Special protective equipment for fire-fighters : Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions : Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Do not touch or walk through spilled material.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up : Do not clean-up or dispose except under supervision of a specialist. Keep unnecessary and unprotected personnel from entering. Follow your company's spill procedures. Avoid all possible sources of ignition (spark or flame). Avoid contact with eyes, skin and clothing. Wear suitable protective clothing. Avoid breathing vapors of this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. For small spills add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. Dike large spills and use a non-sparking or explosion proof means to transfer material to an appropriate container for disposal. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of according to all federal, state and local applicable regulations.

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Section 7. Handling and storage

Handling : Do not ingest. Do not get in eyes, on skin or on clothing. Keep container closed. Use only with adequate ventilation. Do not breathe vapor or mist. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling.

Storage : Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Incompatibility with various substances: : Reactive with oxidizing agents.

Hazardous decomposition products: : carbon oxides (CO, CO_2), nitrogen oxides (NO, NO_2...)

Section 8. Exposure Controls, Personal Protection

Engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any explosive limits. Use explosion-proof ventilation equipment.

Personal protection

Eyes : Avoid contact with eyes. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Avoid contact with skin and clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Avoid contact with skin. Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Personal protection in case of a large spill : Do not clean-up or dispose except under supervision of a specialist. Keep unnecessary and unprotected personnel from entering. Follow your company's spill procedures. Avoid contact with eyes, skin and clothing. Wear suitable protective clothing and eye/face protection. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Avoid breathing vapors of this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Ingredient name	CAS number	Exposure limits
2-butoxyethanol	111-76-2	**ACGIH TLV (United States, 1/2004). Notes: 2002 Adoption.** TWA: 20 ppm 8 hour(s). Form: All forms **NIOSH REL (United States, 6/2001). Skin** TWA: 24 mg/m^3 10 hour(s). Form: All forms TWA: 5 ppm 10 hour(s). Form: All forms **OSHA PEL (United States, 6/1993). Skin** TWA: 240 mg/m^3 8 hour(s). Form: All forms TWA: 50 ppm 8 hour(s). Form: All forms

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OSHA PEL 1989 (United States, 3/1989). Skin
TWA: 120 mg/m^3 8 hour(s). Form: All forms
TWA: 25 ppm 8 hour(s). Form: All forms

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Physical state : Liquid.
Color : Amber.
Odor : Amine like.
pH : Not available.
Boiling/condensation point : The lowest known value is >100°C (212°F) (2,4,6-Tris(dimethylaminomethyl)phenol). Weighted average: 140.5°C (284.9°F)
Melting/freezing point : May start to solidify at -70°C (-94°F) based on data for: 2-butoxyethanol.
Critical temperature : The lowest known value is 367.9°C (694.2°F) (2-butoxyethanol).
Specific gravity : 0.93 (Water = 1)
Vapor pressure : The highest known value is <0.001 kPa (<0.01 mm Hg) (at 20°C) (2,4,6-Tris(dimethylaminomethyl)phenol).
Vapor density : The highest known value is 4.07 (Air = 1) (2-butoxyethanol).
Odor threshold : Not available.
Evaporation rate : Not available.
Ionicity (in water) : Not available.
Dispersion properties : See solubility in water.
Solubility : Soluble in cold water, hot water.

Section 10. Stability and reactivity

Stability and reactivity The product is stable.
Incompatibility with various substances: : Reactive with oxidizing agents.
Other hazardous decomposition products : carbon oxides (CO, CO_2), nitrogen oxides (NO, NO_2...)
Hazardous polymerization : Will not occur.

Section 11. Toxicological information

Toxicity data

Ingredient name	CAS number	Test	Result	Route	Species
2,4,6-tris(dimethylaminomethyl)phe	90-72-2	LD50	1200 mg/kg	Oral	Rat
		LD50	1280 mg/kg	Dermal	Rat
		LD50	1400 mg/kg	Dermal	Rabbit
2-butoxyethanol	111-76-2	LD50	470 mg/kg	Oral	Rat
		LD50	300 mg/kg	Oral	Rabbit
		LD50	1200 mg/kg	Oral	Guinea pig
		LD50	220 mg/kg	Dermal	Rabbit
		LC50	450 ppm (4 hour(s))	Inhalation	Rat
		LC50	700 ppm (7 hour(s))	Inhalation	Mouse

IDLH : Not available.

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Chronic effects on humans : **CARCINOGENIC EFFECTS**: Classified A3 (Proven for animal.) by ACGIH [2-butoxyethanol]. Classified 3 (Not classifiable for human.) by IARC [2-butoxyethanol]. **MUTAGENIC EFFECTS**: Mutagenic for bacteria and/or yeast. [2-butoxyethanol]. **DEVELOPMENTAL TOXICITY**: Classified Reproductive system/toxin/female, Reproductive system/toxin/male, Development toxin [POSSIBLE] [2-butoxyethanol]. May cause damage to the following organs: blood, kidneys, lungs, the nervous system, liver, mucous membranes, bladder, upper respiratory tract, skin, eyes, central nervous system (CNS).

Special remarks on chronic effects on humans : Not available.

California prop. 65 : California prop. 65: No products were found.

Enthone has not conducted specific studies on the toxicity of this product.

Section 12. Ecological information

Ecotoxicity data

Ingredient name	Species	Period	Result
2-butoxyethanol	Lepomis macrochirus (LC50)	96 hour(s)	1490 mg/l

Enthone has not conducted specific studies on the ecotoxicity or enviromental fate of this product.

Section 13. Disposal considerations

Waste disposal : Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Consult your local or regional authorities.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN3267	CORROSIVE LIQUID, BASIC, N.O.S. (PRIMARY ALIPHATIC AMINE)	8	III		ERG# 153

Section 15. Regulatory information

United States

U.S. Federal regulations : All ingredients comply with applicable rules or orders under United States TSCA and Canadian CEPA regulations.

TSCA 12(b) annual export notification: No products were found.
TSCA 12(b) one time export: 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.

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Clean air act (CAA) 112 regulated toxic substances: No products were found.

		Product name	CAS number	Concentration
SARA 313	:	2-butoxyethanol	111-76-2	40-50

State regulations : No products were found.

WHMIS (Canada) : Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).
Class D-2B: Material causing other toxic effects (TOXIC).
Class E: Corrosive liquid.

All ingredients in this product are found on the CEPA DSL.

Section 16. Other information

Definition of Terms

ACGIH	American Conference of Governmental Industrial Hygienists
Ceiling	Maximum exposure limit defined by OSHA
CAS	Chemical Abstract Service
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
REL	Recommended Exposure Limit
RTK	Right to Know
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit
TLV	ACGIH Threshold Limit Value
TLV-C	ACGIH Threshold Limit Value, Ceiling
TRADE SECRET	Claimed as allowed under 29CFR§1910.1200
TSCA	Toxic Substances Control Act
PPE	Personal Protection Equipment
CEPA	Canadian Environmental Protection Act
DSL	Domestic Substance List
NDSL	Non-Domestic Substance List
NSN	New Substance Notification Rules

Disclaimer

This Material Safety Data Sheet may be used to comply with OSHA's Hazard Communication Standard, 29CFR§1910.1200. This Material Safety Data Sheet may also be used to comply with the requirements of Workplace Hazardous Materials Information System, of the Controlled Products Regulations, under the Hazardous Products Act. Enthone furnishes the data contained herein in good faith at customer's request without liability or legal responsibility for same whatsoever, and no warranty or guarantee, express or implied, is made with respect to such data; nor does Enthone grant permission, recommendation, or inducement to infringe any patent whether owned by Enthone or others. The data is offered solely for your information and consideration. Since conditions of use are beyond Enthone's control, user assumes all responsibility and risk.

Cookson Electronics