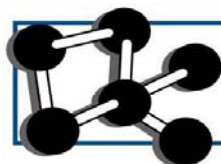


# Material Safety Data Sheet



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Revision Date: 3/2/2006

## I) Product Information

Trade Name:	HMBA (N,N'-Hexamethylenebisacetamide)	PCI Stock Number:	600045
Synonym:	Acetamide, N,N'-1,6-hexanediybis-(9CI); N,N'-Diacetylhexamethylenediamine; Hexamethylenebisacetamide; N,N'-Hexamethylenebisacetamide; Hexamethylenediacetamide; N,N'-1,5-hexanediybisacetamide	Chemical Family:	
		Molecular Weight:	200.25
		Formula:	C <sub>10</sub> H <sub>20</sub> N <sub>2</sub> O <sub>2</sub>

## II) Composition/Information on Ingredient(s)

Ingredient(s):	CAS Number:	Concentration:	Osha PEL:	ACGIH TLV-TWA:
N,N'-Hexamethylenebisacetamide	3073-59-4	Virtually 100%	Not Listed	Not Listed

## III) Hazards Identification:

NFPA Rating			Lab Protective Equipment	
Health rating	1		Respiratory: Laboratory fume hood	
Flammability Rating	0		Hand	Nitrile gloves
Reactivity Rating	0		Eye:	Safety glasses
Special Hazard			General:	Lab coat

Inhalation:	May cause irritation to the respiratory tract
Ingestion:	May cause irritation to the gastro intestinal tract
Skin contact:	May cause skin irritation
Eye Contact:	May cause eye irritation
Chronic Exposure:	Repeat exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs
Aggravation of Pre-existing condition's):	None noted

## IV) First Aid Measures:

Inhalation:	If inhaled remove to fresh air. If not breathing provide artificial respiration. Seek medical attention immediately
Ingestion:	If ingested, remove from exposure and remove contaminated clothing immediately. Washout mouth with water provided person is conscious. Seek medical attention immediately. DO NOT INDUCE VOMITING
Eye Contact:	Check for and remove any contact lenses. In the event of eye contact, flush eyes with copious amounts of tepid water for a minimum of 15 minutes. Seek medical attention immediately.
Skin Contact:	Remove from exposure and remove contaminated clothing immediately. Wash with copious amounts of tepid water and soap and seek medical attention if symptoms occur.

<b>V) Fire Fighting Measures:</b>					
Flash Point:	N/E	Autoignition Temperature:	N/E	Flammable Limits in Air (% by vol.):	N/E
Special Fire Fighting Procedures:	Evacuate personnel to safe area. Firefighters should employ self contained breathing apparatus and protective equipment. Prevent contact with skin or eyes. Extinguishing media include: water spray, dry chemical powder, fog or foam as appropriate for surrounding fire and materials.				
Unusual Fire and Explosion Hazards:	Toxic fumes of carbon and nitrogen oxides may be emitted under fire conditions.				
<b>VI) Accidental Release Measures:</b>					
Spill & leak Response:	US Coast Guard National Response Center (800) 424-8802				
Ventilate area of leak or spill. Wear appropriate personal protective equipment. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover material when possible. Use non-sparking tools and equipment. Collect material in an appropriate container and place in a chemical waste container. Do not flush to sewer! US Regulations (CERCLA) requires reporting spills and releases to soil, water and air in excess or reportable quantities.					
<b>VII) Handling &amp; Storage:</b>					
Storage Precautions:	Keep in a tightly closed container, store in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Outside or detached storage is recommended. Containers of this material may be hazardous when empty since they retain product residues (solids,dust); observe all warnings and precautions listed for the product. Wear special protective equipment for maintenance break-in or where exposure may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in the workplace.				
Usage & Handling Precautions:	This material is sold for research and development (R&D), and must be handled under direct supervision of technically qualified persons. Use in applications other than R&D may require approval from EPA or other regulatory authorities.				
<b>VIII) Exposure Controls/Personal Protection:</b>					
Ventilation/Engineering Controls	A system of local and /or general exhaust is recommended to keep employee exposure below the air borne exposure limits. Local exhaust ventilation is generally preferred because it can control emissions of the contaminate at its source, preventing dispersion of it into the general work area.				
Respiratory Protection	If exposure limit is exceeded, a full face face-piece respirator with an appropriate cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplies, whichever is lowest. For emergencies or instances where the exposure levels are not know, use a full-face-piece positive-pressure, air supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen deficient atmospheres.				
Skin Protection	Chemical resistant impervious gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure to prevent skin contact.				
Eye Protection	Use chemical safety goggles and /or a full face shield where splashing is possible. Maintain eyewash fountain and quick-drench facilities in work area.				
Exposure Limits	N/E				

<b>IX) Physical &amp; Chemical Properties:</b>			
Appearance:	White / Tan	Evaporation Rate (butyl acetate = 1)	N/E
Physical State	Solid	pH	N/E
Melting Point:	128°C	Solubility in Water:	N/E
Boiling Point	N/E	Odor	N/E
Specific Gravity	N/E	Vapor Pressure	N/E
<b>X) Stability &amp; Reactivity:</b>			
<b>Stability</b>	Stable at normal temperatures and pressure		
<b>Hazardous Decomposition Products</b>	Burning may produce carbon and nitrogen oxides		
<b>Incompatible Materials</b>	N/E		
<b>Hazardous Polymerization</b>	Has not been reported		
<b>Conditions to Avoid</b>	Strong oxidizing agents		
<b>XI) Toxicological Information:</b>			
<b>Acute Dosage ( LD50)</b>	Interperitoneal 3250 mg/kg rat, Interperitoneal 4100 mg/kg mouse		
<b>Medical conditions aggravated by exposure</b>	Repeated exposure to highly toxic material may produce general deterioration of health by an accumulation in one or many human organs		
<b>Signs and symptoms of exposure</b>	Eye and skin irritation.		
<b>Potential routes of entry</b>	Ingestion, skin contact		
<b>XII) Ecological Information:</b>			
<b>Environmental Stability</b>	N/E		
<b>Effect on Plants and Animals</b>	N/E		
<b>Effect on Aquatic Life</b>	N/E		

**XIII) Disposal Considerations:**

What ever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change to waste management options. State and local disposal regulation may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements

**XIV) Transport Information:**

Proper Shipping Name	Not DOT Regulated
Hazard Class	
Identification Number	
Packing Group	
Reportable Quantity	
DOT Labels Required	
HS code	

**Packaging & Labeling**

T symbol	R: 36/37/38	S: 26/28/69	
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**XVI) Other Information:**

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