

Air Products and Chemicals, Inc.
7201 Hamilton Boulevard
Allentown, PA 18195-1501
Telephone (610) 481-4911



01OCT97

STANLEY TOOLS
100 STANLEY ROAD
CHERAM SC 29520

Attn: PLANT MANAGER

Dear Customer:

Your firm recently placed an order with Air Products. We appreciate your order and are forwarding to your attention the current Material Safety Data Sheet (MSDS) for the following product:

==> DABCO 33 LV# CATALYST

This product is manufactured by our Polyurethane and Performance Chemicals Division and the attached MSDS is being forwarded to you via our automated MSDS program. Under this program, you will automatically be sent an MSDS whenever you place the initial order for a new product, when there is a change in your ship to address and/or mode of shipment, or whenever an MSDS has been updated, provided you purchased this product within the previous twenty-four (24) months.

For this MSDS to serve its intended purpose as an effective means of hazard communication, we request that you pass it along to all personnel that either handle or use the product. Also, please insure that those who are involved with the design, implementation, or any other operation involving use of the product review this MSDS. This document is also available, upon request, in Danish, Dutch, French, German, Italian, Portuguese, Spanish, and Great Britain English.

Regarding labeling requirements: drums are labeled with the appropriate hazard warning; bulk truck shipments are accompanied by a hazard warning document carried by the driver; and bulk rail shipments have the hazard warning attached to the top of the car.

Should you require additional assistance, please contact our Product Information Center at (800) 345-3148 in the USA and (610) 481-6799 for International inquiries.

Once again, thank you for your order.

Sincerely,

E.I. Handwerk
Chemicals Group
Manager, Product Safety

A REGISTERED TRADEMARK OF AIR PRODUCTS AND CHEMICALS INC.
* A TRADEMARK OF AIR PRODUCTS AND CHEMICALS INC.

Order Number: B76053

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MATERIAL SAFETY DATA SHEET

SECTION 1 - MATERIAL IDENTIFICATION

PRODUCT NAME DABCO[®] 33 LV CATALYST
DABCO is a registered trademark of Air Products and Chemicals, Inc.

PRODUCT CODE 33-LV

MSDS REVISION NUMBER 9

MANUFACTURER Air Products and Chemicals, Inc. 7201 Hamilton Blvd., Allentown, PA 18195-1501

TELEPHONE NUMBER 800-345-3148

EMERGENCY TELEPHONE NUMBER(S)
800-523-9374 (Continental U.S.)
610-481-7711 (Outside Continental U.S.)

DATE PREPARED AUGUST 1997

EMERGENCY OVERVIEW

HMIS HEALTH RATING 2 FLAMMABILITY 1 REACTIVITY 0
PHYSICAL FORM Mobile liquid

COLOR Colorless

ODOR Ammoniacal

HAZARDS Severe eye irritant. Moderate skin irritant.
Mild respiratory tract irritant. May cause sensitization, especially in sensitive individuals.

EXTINGUISHING MEDIA Ignition will give rise to a Class B fire. In case of fire use: Water streams.

C.A.S. CHEMICAL NAME Mixture

SYNONYMS None

CHEMICAL FAMILY Tertiary Amines in Solvent

EMPIRICAL FORMULA Mixture

INTENDED USE Polyurethane Catalyst

REVISION NOTES Updated health hazard information. SIGNS

AND SYMPTOMS OF EXPOSURE (Acute effects)
Updated Reactivity Information. Updated
respiratory protection information.
Updated handling and storage information.

SECTION 2 - INGREDIENTS

#	%	CAS Number and Chemical Name
1.	67.00	25265-71-8 Dipropylene Glycol
2.	33.00	280-57-9 TRIETHYLENEDIAMINE (TEDA)

OSHA (ACGIH) EXPOSURE LIMITS

		TWA		STEL		CEILING	
		ppm	mg/m3	ppm	mg/m3	ppm	mg/m3
1.	OSHA	N/E	N/E	N/E	N/E	N/E	N/E
	ACGIH	N/E	N/E	N/E	N/E	N/E	N/E
2.	OSHA	N/E	N/E	N/E	N/E	N/E	N/E
	ACGIH	N/E	N/E	N/E	N/E	N/E	N/E

N/E = Not Established.

SECTION 3 - HEALTH HAZARDS

ROUTES OF EXPOSURE

Eye Contact
Skin Contact
Ingestion
Skin Absorption

EXPOSURE STANDARDS

No standards established for the product. Maintain air
contaminant concentrations in the workplace at the lowest
feasible levels.

HEALTH HAZARDS

Severe eye irritant.
Moderate skin irritant.
Mild respiratory tract irritant.
May cause sensitization, especially in sensitive individuals.

TARGET ORGANS

Eye
Skin
Kidney

SIGNS AND SYMPTOMS OF EXPOSURE (Acute effects)

Product vapor in low concentrations can cause lacrimation,

conjunctivitis and corneal edema when absorbed into the tissue of the eye from the atmosphere. Corneal edema may give rise to a perception of 'blue haze' or 'fog' around lights. The effect is transient and has no known residual effect. Contact with eyes causes severe irritation and pain. Contact with the skin may cause dryness (defatting), itching and/or rash. Contact with skin causes irritation, redness and discomfort which is transient. Inhalation of mists may cause irritation in the respiratory tract. Inhalation of vapors may cause irritation in the respiratory tract. Coughing and chest pain may result.

Risk of exposure to hazardous concentrations of vapor under normal working conditions in a well ventilated space is minimal. However, conditions such as spraying, or sudden release of hot liquid, which generate an aerosol, mists or fog should be avoided.

Product is absorbed through the skin and may cause nausea, headache and general discomfort.

SIGNS AND SYMPTOMS OF EXPOSURE (Possible Longer Term Effects)

Repeated and/or prolonged exposure may cause allergic reaction/sensitization.

Repeated and/or prolonged exposures may result in: kidney disorders (such as edema, or proteinuria), adverse eye effects (such as conjunctivitis or corneal damage), adverse skin effects (such as defatting, rash, or irritation), adverse skin effects (such as rash, irritation or corrosion).

Dryness of nasal passages may be experienced when material is inhaled over a long period of time.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Eye disease
Kidney disorders
Skin disorders and Allergies

CARCINOGENS UNDER OSHA, ACGIH, NTP, IARC, OTHER

This product contains no carcinogens in concentrations of 0.1 percent or greater.

SECTION 4 - FIRST AID

EYE CONTACT

Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Seek medical advice.

SKIN CONTACT

Remove product and immediately flush affected area with water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical advice. Launder contaminated clothing prior to reuse.

INHALATION

Move patient to fresh air. If breathing has stopped or is labored give assisted respiration (e.g. mouth-to-mouth). Prevent

aspiration of vomit. Turn victim's head to the side. Seek medical advice.

INGESTION

If swallowed, call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by medical personnel. Never give anything by mouth to an unconscious person.

SECTION 5 - FIRE AND EXPLOSION DATA

FLASH POINT (closed cup) >110.00 C (>230.00 F)

UPPER EXPLOSION LIMIT (UEL) No Data

LOWER EXPLOSION LIMIT (LEL) No Data

AUTOIGNITION TEMPERATURE No Data

FIRE HAZARD CLASSIFICATION (OSHA/NFPA)

Class III B

EXTINGUISHING MEDIA

Ignition will give rise to a Class B fire. In case of fire use:
Water streams. In case of fire use:

SPECIAL FIRE FIGHTING PROCEDURES

Firefighters should wear butyl rubber boots, gloves, and body suit and a self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS

May generate toxic or irritating combustion products.

May generate carbon monoxide gas. May generate toxic nitrogen oxide gases. May generate ammonia gas.

Personnel in vicinity and downwind should be evacuated.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

CONTAINMENT TECHNIQUES (Removal of ignition sources, diking etc)

Stop the leak, if possible. Reduce vapor spreading with a water spray. Shut off or remove all ignition sources. Construct a dike to prevent spreading.

CLEAN-UP PROCEDURES

If recovery is not feasible, admix with dry soil, sand or non-reactive absorbent (sodium bisulfate) and place in a container or dumpster pending disposal. Transfer to containers by suction, preparatory for later disposal. Flush area with water spray. Clean-up personnel must be equipped with self contained breathing apparatus and butyl rubber protective clothing. For large spills, recover spilled material with a vacuum truck.

OTHER EMERGENCY ADVICE

Wear protective clothing, boots, gloves, and eye protection.

SECTION 7 - HANDLING AND STORAGE

STORAGE

Keep away from: acids, oxidizers. Keep in cool, dry, ventilated storage and in closed containers. Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Do not store in iron or other reactive metal containers.

HANDLING

Avoid contact with skin or eyes. Avoid breathing of vapors. Handle in well ventilated work space. When handling, do not eat, drink, or smoke.

OTHER PRECAUTIONS

Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations (e.g. OSHA).

SECTION 8 - PERSONAL PROTECTION/EXPOSURE CONTROLS

EYE PROTECTION

Splash-proof eye goggles. In emergency situations, use eye goggles with a full face shield.

HAND PROTECTION

Neoprene rubber gloves. Impermeable gloves. Cuffed butyl rubber gloves. Nitrile rubber gloves.

RESPIRATORY PROTECTION

Not required under normal conditions in a well-ventilated workplace.

PROTECTIVE CLOTHING

Long sleeved clothing.

ENGINEERING CONTROLS

No specific controls needed.

WORK AND HYGIENIC PRACTICES

Provide readily accessible eye wash stations and safety showers. Wash at the end of each workshift and before eating, smoking or using the toilet. Use appropriate hand and skin lotions to protect the skin. Discard contaminated leather articles.

SECTION 9 - TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM	Mobile liquid
COLOR	Colorless
ODOR	Ammoniacal
pH	9.00
VAPOR PRESSURE (mm Hg at 21C (70F))	2.00
VAPOR DENSITY (Air = 1)	No Data
BOILING POINT	>149.00 C (>300.20 F)
MELTING POINT	No Data
SOLUBILITY IN WATER	Completely (100%)
SPECIFIC GRAVITY (Water = 1)	1.13
MOLECULAR WEIGHT	Mixture

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY

Stable

CONDITIONS TO AVOID (if unstable)

Not applicable

INCOMPATIBILITY (Materials to Avoid)

Mineral acids (i.e. sulfuric, phosphoric, etc.). Organic acids (i.e. acetic acid, citric acid etc.). Oxidizing Agents (i.e. perchlorates, nitrates etc.). Reactive metals (i.e. sodium, calcium, zinc etc.). Sodium or Calcium Hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Dehydrating Agents. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Materials reactive with hydroxyl compounds. A reaction accompanied by large heat release occurs when the product is mixed with acids. Heat generated may be sufficient to cause vigorous boiling creating a hazard due to splashing or splattering of hot material.

HAZARDOUS DECOMPOSITION PRODUCTS (from burning, heating, or reaction with other materials).

Carbon Monoxide in a fire. Carbon Dioxide in a fire. Ammonia when heated. Nitrogen Oxides in a fire. Irritating and toxic fumes at elevated temperatures. Nitric acid in a fire. Aldehydes. Nitrogen oxide can react with water vapors to form corrosive nitric acid (TLV=2 ppm).

HAZARDOUS POLYMERIZATION

Will not occur

CONDITIONS TO AVOID (if polymerization may occur)

Not applicable

SECTION 11 - TOXICOLOGICAL PROPERTIES

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ACUTE ORAL TOXICITY (LD50, RAT)
3200.00 mg/kg

ACUTE DERMAL TOXICITY (LD50, RABBIT)
>2000.00 mg/kg (No deaths)

ACUTE INHALATION TOXICITY (LC50, RAT)
>8.10 mg/L / 1 hr (No deaths)

MISCELLANEOUS TOXICITY DATA

Industrial chemicals such as this material with acute toxicity values shown above and whose vapors or mists are not likely to be encountered by humans when used in any reasonably foreseeable manner would not require a toxic label according to U.S. domestic and international transport regulations.

OTHER ACUTE EFFECTS

No Data

IRRITATION EFFECTS DATA

Severe irritant to the eyes of a rabbit. Moderate irritant to the skin of a rabbit.

CHRONIC/SUBCHRONIC DATA

Reports in the literature cite a moderate to low order to toxicity for Dipropylene Glycol (DPG), and the evidence of some kidney damage in rats after ingestion.

SECTION 12 - ECOLOGICAL INFORMATION

No Data

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Comply with all Federal, State and Local Regulations.

SECTION 14 - TRANSPORT INFORMATION

DOT NON-BULK SHIPPING NAME	Chemicals, N.O.I. - Not DOT Regulated
DOT BULK SHIPPING NAME	Refer to Air Products Bill of Lading.
IMO SHIPPING DATA	Chemicals, N.O.I. - Not IMO Regulated
ICAO/IATA SHIPPING DATA	Chemicals, N.O.I. - Not IATA Regulated

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SECTION 15 - REGULATORY INFORMATION

US FEDERAL REGULATIONS

TOXIC SUBSTANCES CONTROL ACT (TSCA)-

All components are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

OSHA Hazard Communication Standard (29CFR1910.1200) hazard class(es)
Irritant, kidney toxin.

EPA SARA Title III Section 312 (40CFR370) hazard class
Immediate Health Hazard.

EPA SARA Title III Section 313 (40CFR372) toxic chemicals above "de minimis" level are
None

STATE REGULATIONS

PROPOSITION 65 SUBSTANCES (component(s) known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the "Safe Drinking Water and Toxic Enforcement Act of 1986")
None

NEW JERSEY TRADE SECRET REGISTRY NUMBER(S)
None

SECTION 16 - INTERNATIONAL REGULATIONS

CANADA

DSL
Included on Inventory.
WHMIS HAZARD CLASSIFICATION
Class D Division 2B,
WHMIS TRADE SECRET REGISTRY NUMBER(S)
Not applicable
WHMIS SYMBOLS
Stylized T,

EUROPEAN ECONOMIC COMMUNITY (EEC)

EINECS MASTER INVENTORY
Included on Inventory.
EEC SYMBOL
IRRITANT (XI)
EEC RISK (R) PHRASES
Irritating to eyes and skin (R36/38).
EEC SAFETY PHRASES
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26). Wear

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suitable gloves (S37).