
 SECTION 1 - MATERIAL IDENTIFICATION

PRODUCT NAME VORANOL* 234-630 POLYOL
 *VORANOL is a registered trademark of Dow
 Chemical. Inc

 PRODUCT CODE VOR630

 MSDS REVISION NUMBER 4589 -02

 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.)
 215-481-7711 (Outside Continental U.S.)
 800-322-9092 (Pennsylvania Only)

 DATE PREPARED MAY 1993

 REVISION NOTES Updated health hazard information
 Updated Transportation Information

 C.A.S. CHEMICAL NAME 50586-59-9 Polyfunctional Polyol
 (trimethylol Propane Base)
 SYNONYMS None
 CHEMICAL FAMILY Polyfunctional Polyol
 EMPIRICAL FORMULA Not available
 INTENDED USE No Data

 SECTION 2 - INGREDIENTS

%	CAS Number and Chemical Name
100	50586-59-9 Polyfunctional Polyol (trimethylol Propane Base)

OSHA (ACGIH) CAS#	EXPOSURE LIMITS		STEL		CEILING	
	TWA ppm	mg/m3	ppm	mg/m3	ppm	mg/m3
50586-59-9	N/E (N/E)	N/E (N/E)	N/E (N/E)	N/E (N/E)	N/E (N/E)	N/E (N/E)

N/E = Not Established. All values in () are U.S. ACGIH (American Conf. of Gov. Indust. Hygienists) - TLV; All others are OSHA - PEL.

SECTION 3 - HEALTH HAZARDS

EMERGENCY OVERVIEW

HMIS HEALTH RATING 2 FLAMMABILITY 1 REACTIVITY 0

Viscous liquid. Colorless. Mild

Moderate eye irritant

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

Water Spray. Carbon Dioxide (CO2). Dry Chemical. Alcohol Foam.

ROUTES OF EXPOSURE

Eye Contact

Ingestion

EXPOSURE STANDARDS

No standards established for the product.

HEALTH HAZARDS

Moderate eye irritant

TARGET ORGANS

Eye

SIGNS AND SYMPTOMS OF EXPOSURE (Acute effects)

Contact with eyes causes irritation, redness and discomfort which is transient. Inhalation of vapors may cause irritation in the respiratory tract.

SIGNS AND SYMPTOMS OF EXPOSURE (Possible Longer Term Effects)

Prolonged contact is essentially nonirritating to skin. May cause more severe response if skin is abraded (scratched or cut).

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

None known.

IRRITATION EFFECTS DATA

No irritation data are known for this product.

ACUTE TOXICITY EFFECTS DATA

Oral LD50 (rat): >5000 mg/kg (estimate)

Dermal LD50 (rabbit): No Data

Inhalation LC50 (rat): No Data

OTHER ACUTE EFFECTS

No Data

CHRONIC/SUBCHRONIC DATA

No delayed, subchronic or chronic test data are known.

SECTION 4 - FIRST AID

YE CONTACT

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

KIN CONTACT

Wash affected area with soap and water.

INHALATION

Move patient to fresh air.

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

CHARACTERISTICS:

Flash Point	190C (375F)
Flash Point Method(s)	Not specified
Upper Explosion Limit (UEL)	No Data
Lower Explosion Limit (LEL)	No Data
Autoignition Temperature	No Data
Fire Hazard Classification (OSHA/NFPA)	None

EXTINGUISHING MEDIA

Ignition will give rise to a Class B fire. In case of fire use: Water Spray. Carbon Dioxide (CO2). Dry Chemical. Alcohol Foam.

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

Polyurethane and Polyisocyanurates produced from this product in combination with phosphorus containing flame retardants may, when pyrolyzed at or above 300C (572F), produce toxic by-products.

SECTION 6 - REACTIVITY HAZARD DATA

CHEMICAL STABILITY

Stable

CONDITIONS TO AVOID (if unstable)

Moisture

INCOMPATABILITY (Materials to Avoid)

Oxidizing Agents (i.e. perchlorates, nitrates etc.)
Phosphorus containing compounds

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

Carbon Monoxide in a fire
Carbon Dioxide in a fire
Irritating and toxic fumes at elevated temperatures

HAZARDOUS POLYMERIZATION

Will not occur

CONDITIONS TO AVOID (if polymerization may occur)

Not applicable

SECTION 7 - SPILL, LEAK AND WASTE DISPOSAL INFORMATION

CONTAINMENT TECHNIQUES (Removal of ignition sources, diking etc)
Stop the leak, if possible. Do not flush to drains.

CLEAN-UP PROCEDURES

If recovery is not feasible, admix with dry soil, sand or non-reactive absorbent and place in a container or dumpster pending disposal.

OTHER EMERGENCY ADVICE

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

WASTE DISPOSAL

Comply with all Federal, State and Local Regulations.

ENVIRONMENTAL EFFECTS

No Data

SECTION 8 - PERSONAL PROTECTION/EXPOSURE CONTROLS

EYE PROTECTION

Splash-proof eye goggles.

HAND PROTECTION

Not required under normal conditions. If hands are cut or scratched use the following: Impermeable gloves.

RESPIRATORY PROTECTION

Not required under normal conditions.

PROTECTIVE CLOTHING

No specific recommendation. Appropriate protective clothing.

ENGINEERING CONTROLS

No specific controls needed.

WORK AND HYGIENIC PRACTICES

Provide readily accessible eye wash stations. Safety shower.

SECTION 9 - STORAGE AND HANDLING

STORAGE

Keep away from: moisture. oxidizers.

HANDLING

Avoid contact with eyes. Handle in well ventilated work space.

OTHER PRECAUTIONS

No special precautions required.

SECTION 10 - TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM	Viscous liquid
COLOR	Colorless
ODOR	Mild
pH	No Data
VAPOR PRESSURE (mm Hg)	Nil
VAPOR DENSITY (Air = 1)	No Data
BOILING POINT	>148C (>300F)
FREEZING/MELTING POINT	No Data
SOLUBILITY IN WATER	Completely
SPECIFIC GRAVITY (Water = 1)	1.115 @ 21C (70F)
EVAPORATION RATE (Butylacetate = 1)	No Data
VISCOSITY (CPS)	No Data
MOLECULAR WEIGHT	No Data

SECTION 11 - TRANSPORTATION INFORMATION

DOT SHIPPING NAME	Not regulated
DOT Bulk Shipping Name	
IMO SHIPPING DATA	Not regulated
ICAO/IATA SHIPPING DATA	Not regulated

SECTION 12 - U.S. 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

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

SECTION 13 - STATE REGULATIONS

Proposition 65 substance(s) listed by the state of California under the "Safe Drinking Water and Toxic Enforcement Act of 1986"
None

New Jersey Trade Secret Registry Number(s)
None

SECTION 14 - INTERNATIONAL REGULATIONS

CANADA

DSL

Included on Inventory

WHMIS Hazard Classification

Class 0 Division 2B

WHMIS Trade Secret Registry Number(s)

None

WHMIS HAZARDOUS INGREDIENTS

None

WHMIS Symbol

Stylized T

EUROPEAN ECONOMIC COMMUNITY (EEC)

EINICS Master Inventory

Polymeric substance: status not determined

EEC SYMBOL

Irritant

EEC Council Directives relating to the classification,

packaging and labeling of dangerous substances and

preparations Risk (R) and Safety (S) phrases

Irritating to eyes (R36).

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26).