



SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY*

Product name: ADCOTE™ 37T77

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THE DOW CHEMICAL COMPANY* encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: ADCOTE™ 37T77

Recommended use of the chemical and restrictions on use

Identified uses: Packaging laminating adhesives

COMPANY IDENTIFICATION

THE DOW CHEMICAL COMPANY*

Agent for Rohm and Haas Chemicals LLC

100 INDEPENDENCE MALL WEST

PHILADELPHIA PA 19106-2399

UNITED STATES

Customer Information Number:

215-592-3000

SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 1 800 424 9300

Local Emergency Contact: 989-636-4400

2. HAZARDS IDENTIFICATION

Hazard classification

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Skin sensitisation - Category 1

Label elements

Hazard pictograms



Signal word: **WARNING!**

Hazards

May cause an allergic skin reaction.

Precautionary statements**Prevention**

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves.

Response

IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/ attention.

Wash contaminated clothing before reuse.

Disposal

Dispose of contents/ container to an approved waste disposal plant.

Other hazards

no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Polymers, water based

This product is a mixture.

Component	CASRN	Concentration
Ethylene copolymer(s)	Not Hazardous	15.0 - 35.0 %
Aqueous resin dispersion	Trade Secret	< 10.0 %
Aqua ammonia	1336-21-6	<= 0.2 %
vinyl acetate	108-05-4	<= 0.05 %
Water	7732-18-5	64.0 - 66.0 %

4. FIRST AID MEASURES

Description of first aid measures

Inhalation: Move to fresh air.

Skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before re-use. Do not take clothing home to be laundered. Consult a physician.

Eye contact: Flush eyes with water as a precaution. If eye irritation persists, consult a specialist.

Ingestion: Drink 1 or 2 glasses of water. Consult a physician. If vomiting occurs spontaneously, keep airway clear. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: Treatment should be directed at preventing absorption, administering to symptoms (if they occur), and providing supportive therapy.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture

Hazardous combustion products: no data available

Unusual Fire and Explosion Hazards: Closed containers may rupture via pressure build-up when exposed to fire or extreme heat. During a fire, irritating and highly toxic gases and/or fumes may be generated during combustion or decomposition.

Advice for firefighters

Fire Fighting Procedures: Move containers promptly out of fire zone. If removal is impossible, cool containers with water spray. Remain upwind. Avoid breathing smoke. Contain run-off.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: MATERIAL IS A POTENTIAL SENSITIZER. If exposed to material during clean-up operations, IMMEDIATELY remove all contaminated clothing and wash exposed skin areas with soap and water. See SECTION 4, First Aid Measures, for further information. Do not take clothing home to be laundered. Appropriate protective equipment must be worn when handling a spill of this material. See SECTION 8, Exposure Controls/Personal Protection, for recommendations.

Environmental precautions: CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Methods and materials for containment and cleaning up: Evacuate personnel to safe areas. Ventilate the area. Floor may be slippery; use care to avoid falling. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid breathing vapor. Avoid all contact.

7. HANDLING AND STORAGE

Precautions for safe handling: This material is a potential sensitizer. See SECTION 8, Exposure Controls/Personal Protection, prior to handling. Vapors can be evolved when material is heated during processing operations. See SECTION 8, Exposure Controls/Personal Protection, for types of ventilation required. Wash after handling and shower at end of work period.

Conditions for safe storage: Avoid temperature extremes during storage; ambient temperature preferred. Store out of direct sunlight in a cool place. Keep containers tightly closed in a cool, well-ventilated place.

Other data: CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all MSDS and label warnings even after container is emptied. Improper disposal or re-use of this container may be dangerous and illegal. Refer to applicable local, state and federal regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Aqua ammonia	Rohm and Haas	TWA	10 ppm, As Ammonia
	OSHA Z-1	TWA	35 mg/m3 50 ppm
	ACGIH	TWA	25 ppm, Ammonia
	ACGIH	STEL	35 ppm, Ammonia
vinyl acetate	Rohm and Haas	TWA	5 ppm
	Rohm and Haas	STEL	15 ppm
	ACGIH	TWA	10 ppm
	ACGIH	STEL	15 ppm

Exposure controls

Engineering controls: Use local exhaust ventilation with a minimum capture velocity of 100 ft/min. (0.5 m/sec.) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Individual protection measures

Eye/face protection: Use chemical splash goggles (ANSI Z87.1 or approved equivalent).

Eye protection worn must be compatible with respiratory protection system employed.

Skin protection

Hand protection: Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation.

(Gloves of other chemically resistant materials may not provide adequate protection):

Butyl-rubber. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.

Other protection: Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact. Where splashing is possible, full chemically resistant protective clothing (e.g. acid suit) and boots are required.

Respiratory protection: A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a

respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Up to 10 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator. Up to 50 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) full-facepiece, air-purifying respirator, OR full-facepiece, airline respirator in the pressure demand mode. Above 50 times the exposure limit or Unknown: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) ammonia/methylamine cartridges and N95 filters. If oil mist is present, use R95 or P95 filters.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	milky liquid
Color	milky white
Odor	slight ammoniacal
Odor Threshold	no data available
pH	10.0
Melting point/range	0 °C (32 °F) Water
Freezing point	no data available
Boiling point (760 mmHg)	100.00 °C (212.00 °F) Water
Flash point	Noncombustible
Evaporation Rate (Butyl Acetate = 1)	<1.00 Water
Flammability (solid, gas)	Not Applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapor Pressure	17.0000000 mmHg at 20.00 °C (68.00 °F) Water
Relative Vapor Density (air = 1)	<1.0000 Water
Relative Density (water = 1)	no data available
Water solubility	Dilutable
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	Not applicable
Decomposition temperature	no data available
Dynamic Viscosity	no data available
Kinematic Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available
Molecular weight	no data available
Percent volatility	64.00 - 66.00 % Water

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: This material is considered stable under specified conditions of storage, shipment and/or use. See SECTION 7, Handling And Storage, for specified conditions.

Possibility of hazardous reactions: Product will not undergo polymerization.

Conditions to avoid: no data available

Incompatible materials: There are no known materials which are incompatible with this product.

Hazardous decomposition products: Thermal decomposition may yield the following: monomer vapors Carbon oxides Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity

Product test data not available.

Acute dermal toxicity

Product test data not available.

Acute inhalation toxicity

Product test data not available.

Skin corrosion/irritation

Product test data not available.

Serious eye damage/eye irritation

Product test data not available.

Sensitization

Product test data not available.

Specific Target Organ Systemic Toxicity (Single Exposure)

Product test data not available.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Product test data not available.

Carcinogenicity

Product test data not available.

Teratogenicity

Product test data not available.

Reproductive toxicity

Product test data not available.

Mutagenicity

Product test data not available.

Aspiration Hazard

Product test data not available.

Additional information

No toxicity data are available for this material.

COMPONENTS INFLUENCING TOXICOLOGY:

Aqueous resin dispersion

Acute oral toxicity

Single dose oral LD50 has not been determined.

Acute dermal toxicity

The dermal LD50 has not been determined.

Acute inhalation toxicity

The LC50 has not been determined.

Aqua ammonia

Acute oral toxicity

Single dose oral LD50 has not been determined.

Acute dermal toxicity

The dermal LD50 has not been determined.

Acute inhalation toxicity

LC50, Rat, male, 1 Hour, dust/mist, 9.850 mg/l

Skin corrosion/irritation

Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

Liquid may cause frostbite upon skin contact.

Vapors may burn skin.

Classified as corrosive to the skin according to DOT guidelines.

Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Vapor may cause eye irritation experienced as mild discomfort and redness.
Liquid may cause frostbite.

Sensitization

For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Carcinogenicity

Did not cause cancer in laboratory animals.

Teratogenicity

Available data are inadequate for evaluation of potential to cause fetotoxicity.

Reproductive toxicity

Available data are inadequate to determine effects on reproduction.

Mutagenicity

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard.

vinyl acetate**Acute oral toxicity**

LD50, Rat, 2,500 - 3,000 mg/kg Estimated.

Acute dermal toxicity

LD50, Rabbit, male, 7,440 mg/kg

Acute inhalation toxicity

Vapor concentrations are attainable which could be hazardous on single exposure. Vapor may cause irritation of the upper respiratory tract (nose and throat).

LC50, Rat, 4 Hour, vapour, 14.084 - 15.810 mg/l

Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.
Prolonged contact may cause severe skin irritation with local redness and discomfort.
May cause rash or blisters.

Serious eye damage/eye irritation

May cause slight eye irritation.
May cause slight corneal injury.
Vapor may cause eye irritation experienced as mild discomfort and redness.

Sensitization

Skin contact may cause an allergic skin reaction in a small proportion of individuals.

Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause respiratory irritation.
Route of Exposure: Inhalation
Target Organs: Respiratory Tract

Specific Target Organ Systemic Toxicity (Repeated Exposure)

In animals, effects have been reported on the following organs:
Lung.
Respiratory tract.

Carcinogenicity

Vinyl acetate has caused cancer in some laboratory animals exposed to high vapor levels in long-term studies; tumors and other respiratory tract lesions occurred secondarily to chronic irritation. Vinyl acetate has caused tumors of the gastrointestinal tract in a drinking water study. Tumors occurred only at high doses, and mechanistic studies indicate that they occurred secondarily to irritation.

Teratogenicity

Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity

In animal studies, did not interfere with reproduction.

Mutagenicity

In vitro genetic toxicity studies were negative in some cases and positive in other cases.

Animal genetic toxicity studies were negative.

Aspiration Hazard

Based on available information, aspiration hazard could not be determined.

Carcinogenicity

Component
vinyl acetate

List
IARC

ACGIH

Classification

Group 2B: Possibly carcinogenic to humans
A3: Confirmed animal carcinogen with unknown relevance to humans.

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

General Information

There is no data available for this product.

Toxicity**Aqueous resin dispersion****Acute toxicity to fish**

No relevant data found.

Aqua ammonia**Acute toxicity to fish**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, Fish., 96 Hour, 0.89 mg/l

Acute toxicity to aquatic invertebrates

LC50, Daphnia magna (Water flea), static test, 48 Hour, 101 mg/l

vinyl acetate**Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, Pimephales promelas (fathead minnow), 96 Hour, 19 - 28 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), semi-static test, 48 Hour, 12.6 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 12.7 mg/l, OECD Test Guideline 201 or Equivalent

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth inhibition (cell density reduction), 8.81 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

EC50, Bacteria, 16 Hour, 380 mg/l

Persistence and degradability**Aqueous resin dispersion**

Biodegradability: No relevant data found.

Aqua ammonia

Biodegradability: Material is expected to be readily biodegradable. Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Theoretical Oxygen Demand: 3.76 mg/mg Estimated.

vinyl acetate

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Not applicable

Biodegradation: 82 - 98 %

Exposure time: 14 d

Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 1.67 mg/mg

Chemical Oxygen Demand: 1.53 - 1.77 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	34 - 61 %
10 d	34 - 74 %
20 d	32 - 95 %

Photodegradation

Test Type: Half-life (indirect photolysis)

Sensitizer: OH radicals

Atmospheric half-life: 9.7 - 12 Hour

Method: Estimated.

Bioaccumulative potential

Aqueous resin dispersion

Bioaccumulation: No relevant data found.

Aqua ammonia

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

vinyl acetate

Bioaccumulation: Bioconcentration potential is low ($BCF < 100$ or $\log Pow < 3$).

Partition coefficient: n-octanol/water(log Pow): 0.73 Measured

Bioconcentration factor (BCF): 3.16 Fish. Estimated.

Mobility in soil

Aqueous resin dispersion

No relevant data found.

vinyl acetate

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient(Koc): 24 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: For disposal, incinerate this material at a facility that complies with local, state, and federal regulations.

(See 40 CFR 268)

Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

**Transport in bulk
according to Annex I or II
of MARPOL 73/78 and the
IBC or IGC Code**

Not regulated for transport

Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Acute Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

Pennsylvania

Any material listed as "Not Hazardous" in the CAS REG NO. column of SECTION 2, Composition/Information On Ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know Act.

California (Proposition 65)

This product contains trace levels of a component or components known to the state of California to cause cancer:

Components

Acetaldehyde

CASRN

75-07-0

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

:

16. OTHER INFORMATION

Hazard Rating System**HMIS**

Health	Flammability	Physical Hazard
2	0	0

Revision

Identification Number: 101126176 / 1001 / Issue Date: 03/16/2015 / Version: 2.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Rohm and Haas	Rohm and Haas OEL's
STEL	Short term exposure limit
TWA	Time weighted average

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY* urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.