



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Fastbond™ Water Based Industrial Adhesive 4213 NF

Product Identification Numbers

62-4213-5535-5, 62-4213-8530-3

1.2. Recommended use and restrictions on use

Recommended use

Adhesive, Industrial use

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Adhesives and Tapes Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Carcinogenicity: Category 2.

2.2. Label elements

Signal word

Warning

Symbols

Health Hazard |

Pictograms



Hazard Statements

Suspected of causing cancer.

Precautionary Statements**Prevention:**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves and eye/face protection.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention.

IF exposed or concerned: Get medical advice/attention.

Storage:

Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified

None.

1% of the mixture consists of ingredients of unknown acute oral toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Vinyl Acetate-Dibutyl Maleate Polymer	25035-90-9	40 - 70 Trade Secret *
Water	7732-18-5	30 - 60 Trade Secret *
Hydroxyethyl Cellulose	9004-62-0	0.5 - 5 Trade Secret *
Hexylene Glycol	107-41-5	0.5 - 5 Trade Secret *
Vinyl Acetate	108-05-4	< 1.5

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you are concerned, get medical advice.

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Material will not burn. Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide

Carbon dioxide

Condition

During Combustion

During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with detergent and water. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial or professional use only. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Hexylene Glycol	107-41-5	ACGIH	CEIL:25 ppm	
Vinyl Acetate	108-05-4	ACGIH	TWA:10 ppm;STEL:15 ppm	A3: Confirmed animal carcin.
Vinyl Acetate	108-05-4	CMRG	TWA:5 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety Glasses with side shields

Skin/hand protection

No protective gloves required. Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Nitrile Rubber

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Odor, Color, Grade:	white, slight odor
Odor threshold	No Data Available
pH	No Data Available
Melting point	Not Applicable
Boiling Point	>=100 °C [Details: Water]
Flash Point	No flash point

Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	<=17.5 mmHg [@ 68 °F]
Density	1.08 g/ml
Specific Gravity	1.08 [<i>Ref Std: WATER=1</i>]
Solubility in Water	Moderate
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>Not Applicable</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	1,500 - 3,000 centipoise [@ 73.4 °F]
Hazardous Air Pollutants	<=4 % weight [<i>Test Method: Calculated</i>]
VOC Less H2O & Exempt Solvents	<=80 g/l [<i>Test Method: tested per EPA method 24</i>]
Solids Content	40 - 70 %

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

Substance

None known.

Condition

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

No known health effects.

Skin Contact:

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Eye Contact:

Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Additional Health Effects:**Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
Vinyl Acetate	108-05-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Vinyl Acetate-Dibutyl Maleate Polymer	Dermal	Professional judgment	LD50 Test result is not available
Vinyl Acetate-Dibutyl Maleate Polymer	Ingestion	similar compounds	LD50 Test result is not applicable
Hydroxyethyl Cellulose	Dermal		LD50 estimated to be > 5,000 mg/kg
Hydroxyethyl Cellulose	Ingestion	Rat	LD50 > 5,000 mg/kg
Vinyl Acetate	Dermal	Rabbit	LD50 2,320 mg/kg
Vinyl Acetate	Inhalation-Vapor (4 hours)	Rat	LC50 11.3 mg/l
Vinyl Acetate	Ingestion	Rat	LD50 2,920 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Hydroxyethyl Cellulose	Human and animal	No significant irritation
Vinyl Acetate	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Hydroxyethyl Cellulose	Rabbit	No significant irritation
Vinyl Acetate	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
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Vinyl Acetate	Guinea pig	Some positive data exist, but the data are not sufficient for classification
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Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Vinyl Acetate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Vinyl Acetate	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Vinyl Acetate	Ingestion	Multiple animal species	Carcinogenic
Vinyl Acetate	Inhalation	Rat	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Vinyl Acetate	Inhalation	Not toxic to female reproduction	Mouse	NOAEL 3.5 mg/l	3 months
Vinyl Acetate	Inhalation	Not toxic to male reproduction	Mouse	NOAEL 3.5 mg/l	3 months
Vinyl Acetate	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 140 mg/kg/day	2 generation
Vinyl Acetate	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 140 mg/kg/day	2 generation
Vinyl Acetate	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 700 mg/kg/day	2 generation
Vinyl Acetate	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.7 mg/l	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Vinyl Acetate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
Vinyl Acetate	Inhalation	central nervous system depression	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Vinyl Acetate	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.2 mg/l	104 weeks
Vinyl Acetate	Inhalation	heart hematopoietic system liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.1 mg/l	104 weeks

		kidney and/or bladder				
Vinyl Acetate	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.07 mg/l	120 days
Vinyl Acetate	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 3.5 mg/l	3 months
Vinyl Acetate	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 2.1 mg/l	104 weeks
Vinyl Acetate	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 684 mg/kg/day	3 months
Vinyl Acetate	Ingestion	hematopoietic system nervous system kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 235 mg/kg/day	104 weeks
Vinyl Acetate	Ingestion	immune system respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 950 mg/kg/day	3 months
Vinyl Acetate	Ingestion	heart	All data are negative	Rat	NOAEL 235 mg/kg/day	104 weeks

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations**13.1. Disposal methods**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Vinyl Acetate	108-05-4	< 1.5

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information**NFPA Hazard Classification**

Health: 1 Flammability: 1 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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