



## Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

### SECTION 1: Identification

#### 1.1. Product identifier

FT-32, Denatonium Benzoate Fit Test Solution

#### Product Identification Numbers

70-0707-0966-5      AT-0105-8740-3      HB-0044-6509-0      HB-0044-6510-8      HB-0046-0663-6

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Fit Test Solution.

#### 1.3. Supplier's details

**ADDRESS:** 3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301 Petaling, Jaya, Selangor  
**Telephone:** 03-7884 2888  
**E Mail:** 3mmyehsr@mmm.com  
**Website:** www.3M.com.my

#### 1.4. Emergency telephone number

+60 03-7884 2888

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

Not classified as hazardous according to Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

#### 2.2. Label elements

##### Signal word

Not applicable.

##### Symbols

Not applicable.

##### Pictograms

Not applicable.

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### 2.3. Other hazards

None known

## SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
WATER	7732-18-5	90 - 100
SODIUM CHLORIDE	7647-14-5	3 - 10
DENATONIUM BENZOATE	3734-33-6	0 - 1

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

#### Skin Contact:

No need for first aid is anticipated.

#### Eye Contact:

No need for first aid is anticipated.

#### If Swallowed:

No need for first aid is anticipated.

### 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

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

### 5.2. Special hazards arising from the substance or mixture

None inherent in this product.

### 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

Observe precautions from other sections.

### 6.2. Environmental precautions

Avoid release to the environment.

### 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 water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Do not eat, drink or smoke when using this product. Avoid release to the environment.

### 7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

No occupational exposure limit values exist for any of the components listed in Section 3 of this SDS.

### 8.2. Exposure controls

#### 8.2.1. Engineering controls

No engineering controls required.

#### 8.2.2. Personal protective equipment (PPE)

##### Eye/face protection

None required.

##### Skin/hand protection

No protective gloves required.

##### Respiratory protection

None required.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance/Odor	Clear, odorless solution with a bitter taste. Freezing point = -4 degrees Centigrade.
Odor threshold	<i>No Data Available</i>
pH	Approximately 6.52
Melting point/Freezing point	<i>Not Applicable</i>
Boiling point/Initial boiling point/Boiling range	$\geq 100$ °C
Flash Point	No flash point
Evaporation rate	<i>Not Applicable</i>
Flammability (solid, gas)	Not Applicable

Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	2,399.8 Pa [ @ 20 °C ]
Vapor Density	<i>Not Applicable</i>
Density	1.034 g/ml
Relative Density	1.034 [Ref Std: WATER=1]
Water solubility	Complete
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	<i>Not Applicable</i>
Molecular weight	<i>Not Applicable</i>
Volatile Organic Compounds	<i>Not Applicable</i>
Percent volatile	<i>Not Applicable</i>
VOC Less H2O & Exempt Solvents	<i>Not Applicable</i>

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

### 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

None known.

### 10.6. Hazardous decomposition products

Substance

None known.

Condition

Not Specified

## 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:

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Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

**Skin Contact:**

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

**Eye Contact:**

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

**Ingestion:**

No known health effects.

**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
SODIUM CHLORIDE	Dermal	Rabbit	LD50 > 10,000 mg/kg
SODIUM CHLORIDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 10.5 mg/l
SODIUM CHLORIDE	Ingestion	Rat	LD50 3,550 mg/kg
DENATONIUM BENZOATE	Inhalation-Dust/Mist		LC50 estimated to be 1 - 5 mg/l
DENATONIUM BENZOATE	Dermal	Rat	LD50 > 2,000 mg/kg
DENATONIUM BENZOATE	Ingestion	Rat	LD50 584 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
SODIUM CHLORIDE	Rabbit	No significant irritation
DENATONIUM BENZOATE	Rabbit	Mild irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
Overall product	Rabbit	No significant irritation
SODIUM CHLORIDE	Rabbit	Mild irritant
DENATONIUM BENZOATE	Rabbit	Corrosive

**Skin Sensitization**

Name	Species	Value
Overall product	Guinea pig	Not classified
DENATONIUM BENZOATE	Human	Not classified

**Respiratory Sensitization**

Name	Species	Value
DENATONIUM BENZOATE	Human	Not classified

**Germ Cell Mutagenicity**

Name	Route	Value
SODIUM CHLORIDE	In Vitro	Some positive data exist, but the data are not

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		sufficient for classification
SODIUM CHLORIDE	In vivo	Some positive data exist, but the data are not sufficient for classification
DENATONIUM BENZOATE	In Vitro	Not mutagenic
DENATONIUM BENZOATE	In vivo	Not mutagenic

**Carcinogenicity**

Name	Route	Species	Value
SODIUM CHLORIDE	Ingestion	Rat	Not carcinogenic
DENATONIUM BENZOATE	Ingestion	Rat	Not carcinogenic

**Reproductive Toxicity****Reproductive and/or Developmental Effects**

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

**Target Organ(s)****Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Overall product	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.016 mg/l	4 hours

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

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
SODIUM CHLORIDE	Ingestion	blood   kidney and/or bladder   vascular system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,240 mg/kg/day	9 months
SODIUM CHLORIDE	Ingestion	nervous system   eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,700 mg/kg/day	90 days
SODIUM CHLORIDE	Ingestion	liver   respiratory system	Not classified	Rat	NOAEL 33 mg/kg/day	90 days
DENATONIUM BENZOATE	Ingestion	endocrine system   heart   bone, teeth, nails, and/or hair   hematopoietic system   liver   immune system   muscles   nervous system   eyes   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 16 mg/kg/day	2 years

**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**

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be

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reflected in this section because an ingredient is present below the threshold for labeling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

**12.1. Toxicity**

**Acute aquatic hazard:**

Not acutely toxic to aquatic life by GHS criteria.

**Chronic aquatic hazard:**

Not chronically toxic to aquatic life by GHS criteria.

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
SODIUM CHLORIDE	7647-14-5	Algae other	Experimental	96 hours	Effect Concentration 50%	2,430 mg/l
SODIUM CHLORIDE	7647-14-5	Bluegill	Experimental	96 hours	Lethal Concentration 50%	5,840 mg/l
SODIUM CHLORIDE	7647-14-5	Water flea	Experimental	48 hours	Lethal Concentration 50%	874 mg/l
SODIUM CHLORIDE	7647-14-5	Fathead Minnow	Experimental	33 days	No obs Effect Conc	252 mg/l
SODIUM CHLORIDE	7647-14-5	Water flea	Experimental	21 days	No obs Effect Conc	314 mg/l
DENATONIUM BENZOATE	3734-33-6	Crustacea	Experimental	96 hours	Lethal Concentration 50%	400 mg/l
DENATONIUM BENZOATE	3734-33-6	Green algae	Experimental	72 hours	Effect Concentration 50%	282 mg/l
DENATONIUM BENZOATE	3734-33-6	Water flea	Experimental	48 hours	Effect Concentration 50%	>500 mg/l
DENATONIUM BENZOATE	3734-33-6	Zebra Fish	Experimental	96 hours	Lethal Concentration 50%	>100 mg/l

**12.2. Persistence and degradability**

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
SODIUM CHLORIDE	7647-14-5	Data not availbl- insufficient			N/A	
DENATONIUM BENZOATE	3734-33-6	Experimental Biodegradation	28 days	Biological Oxygen Demand	18.17 % weight	OECD 301F - Manometric Respiro

**12.3. Bioaccumulative potential**

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
SODIUM CHLORIDE	7647-14-5	Data not available or	N/A	N/A	N/A	N/A

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		insufficient for classification				
DENATONIUM BENZOATE	3734-33-6	Experimental Bioconcentration		Log of Octanol/H <sub>2</sub> O part. coeff	2.2	Other methods

**12.4. Mobility in soil**

Please contact manufacturer for more details

**12.5 Other adverse effects**

No information available

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

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

**SECTION 14: Transport Information**

Not hazardous for transportation.

**Marine Transport (IMDG)**

**UN Number:**None assigned.

**Proper Shipping Name:**None assigned.

**Technical Name:**None assigned.

**Hazard Class/Division:**None assigned.

**Subsidiary Risk:**None assigned.

**Packing Group:**None assigned.

**Limited Quantity:**None assigned.

**Marine Pollutant:** None assigned.

**Marine Pollutant Technical Name:** None assigned.

**Other Dangerous Goods Descriptions:**

None assigned.

**Air Transport (IATA)**

**UN Number:**None assigned.

**Proper Shipping Name:**None assigned.

**Technical Name:**None assigned.

**Hazard Class/Division:**None assigned.

**Subsidiary Risk:**None assigned.

**Packing Group:**None assigned.

**Limited Quantity:**None assigned.

**Marine Pollutant:** None assigned.

**Marine Pollutant Technical Name:** None assigned.

**Other Dangerous Goods Descriptions:**

None assigned.

Transportation classifications are provided as a customer service. As for shipping, YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation



classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling or marking requirements. The above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

## **SECTION 15: Regulatory information**

### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

#### **Global inventory status**

Contact 3M for more information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

## **SECTION 16: Other information**

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

**3M Malaysia SDSs are available at [www.3M.com.my](http://www.3M.com.my)**