SAFETY DATA SHEET

1. Identification

Product identifier **Thread Sealant with PTFE**

Other means of identification

FIR No. 190977

Recommended use Anaerobic pipe sealant with Teflon lubricant. Removable with hand tools.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Supplier

Company Name Ford Motor Company

Address Attention: MSDS Information, P.O. Box 1899
Dearborn, Michigan 48121
USA

Telephone 1-800-392-3673

MSDS Information 1-800-448-2063
msds@brownart.com

Emergency telephone numbers

Poison Control Center: USA and Canada: 1-800-959-3673
INFOTRAC (Transportation): USA and Canada 1-800-535-5053

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity, repeated exposure	Category 2

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Warning

Hazard statement Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Wear 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. Get medical advice/attention if you feel unwell. If eye irritation persists: Get medical advice/attention.

Storage Store away from incompatible materials.

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

Hazard(s) not otherwise classified (HNOC) May be irritating to the skin. May cause an allergic skin reaction. May be harmful if absorbed through skin. May cause irritation of respiratory tract.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
MICA GROUP MINERALS		12001-26-2	20 - < 30
Octan-1-ol		111-87-5	5 - < 10
.ALPHA.,.ALPHA.-DIMETHYLBENZYL HYDROPEROXIDE		80-15-9	1 - < 3
Propane-1,2-diol		57-55-6	1 - < 3
TITANIUM DIOXIDE		13463-67-7	1 - < 3

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

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting.

Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Hydrogen fluoride, a corrosive and toxic gas, and other potentially hazardous fluorine-containing compounds may be released upon combustion.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Use water spray to cool unopened containers.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors. Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up The product is immiscible with water and will sediment in water systems.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Avoid contact with eyes. Avoid contact with skin. Avoid breathing vapor. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
TITANIUM DIOXIDE (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
MICA GROUP MINERALS (CAS 12001-26-2)	TWA	20 mppcf

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
MICA GROUP MINERALS (CAS 12001-26-2)	TWA	3 mg/m3	Respirable fraction.
TITANIUM DIOXIDE (CAS 13463-67-7)	TWA	10 mg/m3	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
MICA GROUP MINERALS (CAS 12001-26-2)	TWA	3 mg/m3	Respirable.

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
.ALPHA.,.ALPHA.-DIMETHYLBENZYL HYDROPEROXIDE (CAS 80-15-9)	TWA	6 mg/m3 1 ppm	
Octan-1-ol (CAS 111-87-5)	TWA	265 mg/m3 50 ppm	
Propane-1,2-diol (CAS 57-55-6)	TWA	10 mg/m3	Aerosol.

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US WEEL Guides: Skin designation

.ALPHA.,.ALPHA.-DIMETHYLBENZYL HYDROPEROXIDE (CAS 80-15-9)	Can be absorbed through the skin.

Appropriate engineering controls Provide eyewash station. Use adequate ventilation to control airborne concentrations below the exposure limits/guidelines. If user operations generate a vapor, dust and/or mist, use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits/guidelines.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Suitable chemical protective gloves should be worn when the potential exists for prolonged or repeated skin exposure. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Neoprene gloves are recommended. Nitrile gloves are recommended.

Other Wear suitable protective clothing. Wear appropriate chemical resistant clothing if applicable.

Respiratory protection	If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of OSHA Respiratory Protection Standard 29 CFR 1910.134 and/or Canadian Standard CSA Z94.4.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Paste.
Color	White.
Odor	Mild.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	> 299.84 °F (> 148.8 °C) (>300°F)
Flash point	> 199.9 °F (> 93.3 °C) TCC
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	1 % Octanol
Explosive limit - upper (%)	8 % Octanol
Vapor pressure	Not available.
Vapor density	> 1 (AIR=1)
Relative density	1.16 - 1.26
Relative density temperature	39.2 °F (4 °C)
Solubility(ies)	
Solubility (water)	INSOLUBLE
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
VOC (Weight %)	< 3 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Amines. Reducing agents.
Hazardous decomposition products	Hydrogen fluoride, a corrosive and toxic gas, and other potentially hazardous fluorine-containing compounds may be released upon combustion. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful. May cause irritation to the respiratory system.

Skin contact	May be irritating to the skin. May cause an allergic skin reaction. May be harmful in contact with skin.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity

Components	Species	Calculated/Test Results
.ALPHA.,.ALPHA.-DIMETHYLBENZYL HYDROPEROXIDE (CAS 80-15-9)		
Acute		
Dermal		
LD50	Rat	0.5 ml/kg
Inhalation		
LC50	Mouse	200 mg/l, 4 Hours
Octan-1-ol (CAS 111-87-5)		
Acute		
Dermal		
LD50	Guinea pig	> 500 mg/kg
	Rabbit	> 5 g/kg
Oral		
LD50	Mouse	1800 mg/kg
	Rat	> 5 g/kg
Propane-1,2-diol (CAS 57-55-6)		
Acute		
Oral		
LD50	Dog	19 g/kg
	Guinea pig	18.4 g/kg
	Mouse	23.9 g/kg
	Rabbit	18 g/kg
	Rat	30 g/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	May cause an allergic skin reaction.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Carcinogenic effects are not expected as a result of occupational exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

TITANIUM DIOXIDE (CAS 13463-67-7) 2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure. Skin. Respiratory tract.
Aspiration hazard	Not an aspiration hazard.

Chronic effects May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Ecotoxicity

Components		Species	Calculated/Test Results
Octan-1-ol (CAS 111-87-5)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	12.3 - 13.4 mg/l, 96 hours
Propane-1,2-diol (CAS 57-55-6)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	710 mg/l, 96 hours
TITANIUM DIOXIDE (CAS 13463-67-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	LC50	Mummichog (Fundulus heteroclitus)	> 1000 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Octan-1-ol	3
Propane-1,2-diol	-0.92

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

<Unspecified>

Not regulated as dangerous goods.

IATA

<Unspecified>

Not regulated as dangerous goods.

IMDG

<Unspecified>

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

.ALPHA.,.ALPHA.-DIMETHYLBENZYL HYDROPEROXIDE (CAS 80-15-9) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
.ALPHA.,.ALPHA.-DIMETHYLBENZYL HYDROPEROXIDE	80-15-9	1 - < 3

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

.ALPHA.,.ALPHA.-DIMETHYLBENZYL HYDROPEROXIDE (CAS 80-15-9)
MICA GROUP MINERALS (CAS 12001-26-2)
TITANIUM DIOXIDE (CAS 13463-67-7)

US. New Jersey Worker and Community Right-to-Know Act

.ALPHA.,.ALPHA.-DIMETHYLBENZYL HYDROPEROXIDE (CAS 80-15-9)
MICA GROUP MINERALS (CAS 12001-26-2)
Propane-1,2-diol (CAS 57-55-6)
TITANIUM DIOXIDE (CAS 13463-67-7)

US. Pennsylvania Worker and Community Right-to-Know Law

.ALPHA.,.ALPHA.-DIMETHYLBENZYL HYDROPEROXIDE (CAS 80-15-9)
MICA GROUP MINERALS (CAS 12001-26-2)
Octan-1-ol (CAS 111-87-5)
Propane-1,2-diol (CAS 57-55-6)
TITANIUM DIOXIDE (CAS 13463-67-7)

US. Rhode Island RTK

.ALPHA.,.ALPHA.-DIMETHYLBENZYL HYDROPEROXIDE (CAS 80-15-9)

US. California Proposition 65

Not applicable.

International Inventories

All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

16. Other information, including date of preparation or last revision

Issue date	05-14-2015
Version #	01
HMIS® ratings	Health: 2 Flammability: 1 Physical hazard: 0
NFPA ratings	Health: 2 Flammability: 1 Instability: 1
Preparation Information and Disclaimer	This document was prepared by FCSD-Toxicology, Ford Motor Company, Diagnostic Service Center II, 1800 Fairlane Drive, Allen Park, MI 48101, USA, based in part on information provided by the manufacturer. The information on this data sheet represents our current data and is accurate to the best of our knowledge as to the proper handling of this product under normal conditions and in accordance with the application specified on the packaging and/or technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user. To the extent that there are any differences between this product's Safety Data Sheet (SDS) and the consumer packaged product labels, the SDS should be followed.
Part number(s)	TA-24-B