

1. Identification

Product identifier **Metal Bonding Adhesive**

Other means of identification

FIR No. 161171

Recommended use Metal bonding adhesive

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

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Sensitization, skin	Category 1
Reproductive toxicity (fertility, the unborn child)	Category 1B

Environmental hazards

Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

OSHA defined hazards

Not classified.

Label elements



Signal word

Danger

Hazard statement

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May damage fertility. May damage the unborn child. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. 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. Take off contaminated clothing and wash before reuse. Collect spillage.

Storage

Store locked up.

Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	May be harmful if swallowed. May cause irritation of respiratory tract.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Epoxy Resin		Trade Secret	20 - < 30
DIBENZOYL PEROXIDE		94-36-0	3 - < 5
DICYCLOHEXYL PHTHALATE		84-61-7	3 - < 5
DIBUTYL PHTHALATE		84-74-2	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	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
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. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Do not induce vomiting. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
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 exposed or concerned: Get medical advice/attention. 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. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

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	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Container may explode in heat of fire.
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	Move containers from fire area if you can do so without risk.
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. Avoid contact with eyes, skin, and clothing. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
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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. Prevent product from entering drains. 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 release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store away from incompatible materials (see Section 10 of the SDS). Store in tightly closed original container in a dry, cool and well-ventilated place.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value
DIBENZOYL PEROXIDE (CAS 94-36-0)	PEL	5 mg/m3
DIBUTYL PHTHALATE (CAS 84-74-2)	PEL	5 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
DIBENZOYL PEROXIDE (CAS 94-36-0)	TWA	5 mg/m3
DIBUTYL PHTHALATE (CAS 84-74-2)	TWA	5 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
DIBENZOYL PEROXIDE (CAS 94-36-0)	TWA	5 mg/m3
DIBUTYL PHTHALATE (CAS 84-74-2)	TWA	5 mg/m3

Biological limit values

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

Appropriate engineering controls

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. Use protective gloves made of: Nitrile. Neoprene. Rubber gloves.

Other

Wear appropriate chemical resistant 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. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Paste.
Color	Black.
Odor	Mild.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	641.84 °F (338.8 °C) (642°F)
Flash point	201.0 °F (93.9 °C) SETAFLASH
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapor pressure	Not available.
Vapor density	> 1 (AIR=1)
Relative density	1.8
Relative density temperature	39.2 °F (4 °C)
Solubility(ies)	
Solubility (water)	INSOLUBLE IN WATER
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

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 acids. Strong oxidizing agents. Fluorine.
Hazardous decomposition products	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	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	May be harmful if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity May cause an allergic skin reaction.

Components	Species	Calculated/Test Results
DIBENZOYL PEROXIDE (CAS 94-36-0)		
Acute		
<i>Oral</i>		
LD50	Rat	7710 mg/kg
DIBUTYL PHTHALATE (CAS 84-74-2)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	4200 mg/kg 20 ml/kg
<i>Inhalation</i>		
LC50	Mouse	25 mg/l, 2 Hours
	Rat	15.68 mg/l, 4 Hours
<i>Oral</i>		
LD50	Guinea pig	10000 mg/kg
	Mouse	4840 mg/kg
	Rat	6300 mg/kg
DICYCLOHEXYL PHTHALATE (CAS 84-61-7)		
Acute		
<i>Oral</i>		
LD50	Mouse	> 3200 mg/kg
	Rat	> 3200 mg/kg 30 ml/kg
Skin corrosion/irritation	Causes skin 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		
DIBENZOYL PEROXIDE (CAS 94-36-0)		3 Not classifiable as to carcinogenicity to humans.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	May damage fertility. May damage the unborn child.	
Specific target organ toxicity - single exposure	Not classified.	

Specific target organ toxicity - repeated exposure Not classified.
Aspiration hazard Not an aspiration hazard.
Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Ecotoxicity

Components	Species	Calculated/Test Results
DIBUTYL PHTHALATE (CAS 84-74-2)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 2.99 mg/l, 48 hours
Fish	LC50	Channel catfish (Ictalurus punctatus) 0.4 - 0.53 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)

DIBENZOYL PEROXIDE	3.46
DIBUTYL PHTHALATE	4.9

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. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. 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 established.

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)

DIBUTYL PHTHALATE (CAS 84-74-2) Listed.
 DICYCLOHEXYL PHTHALATE (CAS 84-61-7) 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 - No
 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.
DIBENZOYL PEROXIDE	94-36-0	3 - < 5
DIBUTYL PHTHALATE	84-74-2	1 - < 3

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

DIBUTYL PHTHALATE (CAS 84-74-2)

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 Not applicable.

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

Not listed.

US. Massachusetts RTK - Substance List

DIBENZOYL PEROXIDE (CAS 94-36-0)
 DIBUTYL PHTHALATE (CAS 84-74-2)

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

DIBENZOYL PEROXIDE (CAS 94-36-0)
 DIBUTYL PHTHALATE (CAS 84-74-2)

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

DIBENZOYL PEROXIDE (CAS 94-36-0)
 DIBUTYL PHTHALATE (CAS 84-74-2)
 DICYCLOHEXYL PHTHALATE (CAS 84-61-7)

US. Rhode Island RTK

DIBENZOYL PEROXIDE (CAS 94-36-0)
 DIBUTYL PHTHALATE (CAS 84-74-2)
 DICYCLOHEXYL PHTHALATE (CAS 84-61-7)

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 05-20-2015
Version # 01
HMIS® ratings Health: 2
 Flammability: 1
 Physical hazard: 1

NFPA ratings

Health: 1
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-1, TA-1-B