



Factor II, Incorporated

P.O. Box 1339
Lakeside, AZ 85929

Phone: (928) 537-8387
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MATERIAL SAFETY DATA SHEET TS-403T Part A

In Case of Emergency Contact 928-242-1308 Factor II, Inc.

Factor II Inc. Technology urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to the use and understanding of the data contained in this MSDS.

To promote safe handling each customer or recipient should: (1) notify and furnish its employees, agents, contractors, customers, and others whom it knows or believes will use this material of the information regarding hazards or safety, (2) request its customers to notify their employees, customers and other users of the product of this information.

1. IDENTIFICATION

PRODUCT NAME: **TS-403 Part A**
CHEMICAL NAME: N/A
CHEMICAL FAMILY: Silicone Dispersion
FORMULA: Proprietary
MOLECULAR WEIGHT: N/A
SYNONYMS: N/A
CAS #: Mixture

2. PHYSICAL DATA (Based on typical material)

BOILING POINT: 162-190°F
SPECIFIC GRAVITY (H₂O=1): 1.16
FREEZING POINT: N/A
VAPOR PRESSURE @20°C: 100mm Hg
VAPOR DENSITY (air=1): 4.6
EVAPORATION RATE (Butyl Acetate =1): N/A
SOLUBILITY IN WATER (By wt): .04%
APPEARANCE: Translucent
ODOR: Mild Sweet
PHYSICAL STATE: High viscosity Liquid
PERCENT VOLATILES (by wt): See Section X

Note: The above information is not intended for use in preparing product specifications.

3. HAZARDOUS INGREDIENTS (as defined in 29 CFR 1910.1200)

%	MATERIAL	CAS NUMBER	EXPOSURE VALUE
85	1:1:1 Trichloroethane	00071-55-6	See Section V
5	Silica, amorphous, treated	68909-20-6	See Section V

See Section X for chemicals appearing on Federal or State Right-To-Know lists.



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4. FIRE AND EXPLOSION DATA

FLASH POINT (test method(s)): None (Tag Closed Cub)

FLAMMABLE LIMITS IN AIR (by volume):
LOWER: N/A UPPER: N/A

EXTINGUISHING MEDIA: Apply alcohol-type or universal-type foams applied by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical for small fires.

SPECIAL FIRE FIGHTING PROCEDURES: Do not spray a solid stream of water or foam directly into a pool of hot, burning liquid as this may cause frothing, and may intensify the fire. Use self-contained breathing apparatus when fighting fire in an enclosed area.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

5. HEALTH HAZARD DATA

TLV AND SOURCE:
1:1:1 Trichloroethane 350 ppm - 8 hours TWA (ACGIH, OSHA)
 450 ppm- Stel/Ceil © (ACGIH, OSHA)

Silica: 10 mg/ni' - 8 hours TWA (ACGIH)
 6 mg/m' - 8 hours TWA (OSHA, NIOSH)

EFFECTS OF SINGLE OVEREXPOSURE:

SWALLOWING:

May cause a burning sensation in the stomach, plus nausea and vomiting. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.

SKIN ABSORPTION:

No evidence of adverse effects from available information

INHALATION:

Vapor may be irritating, experienced as discomfort in the nose and throat, and discharge from the nose; respiratory irritation, experienced as cough, headache, nausea, dizziness, drowsiness, weakness, confusion.

SKIN CONTACT:

Prolonged contact can cause local redness with drying and cracking of the skin due to a defatting action.

EYE CONTACT:

Liquid causes severe irritation, experienced as stinging or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva.

EFFECTS OF REPEATED OVEREXPOSURE:

Long term exposure to 1:1:1 Trichloroethane may produce toxicity, presented as cardiac arrhythmias and or myocardial injury leading to cardiac failure. No injury from silica or other dust should occur during reasonable use. If use creates respirable particles, then some respiratory system injury may occur. However, since the silica in this product is compounded into the polymer matrix, it is not expected to present the same health hazard as neat silica.



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MEDICAL, CONDITIONS AGGRAVATED BY OVEREXPOSURE:

Because of its irritating and defatting properties, this material may aggravate an existing dermatitis.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:

1:1:1 Trichloroethane has been shown to cause embryo fetal toxicity and birth defects in laboratory animals, but only at doses which also cause maternal toxicity. There is no information available with respect to its' possible developmental effects in humans.

Animals exposed repeatedly to high vapor concentrations (800ppm or greater) of mixed 1:1:1 Trichloroethane suffered hearing loss.

OTHER EFFECTS OF OVEREXPOSURE:

None currently known.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING:

If victim is fully conscious give two glasses of water or milk at once. Do not induce vomiting.. Obtain medical attention immediately.

SKIN:

Remove contaminated clothing and wash skin with soap and water. Wash clothing before reuse. Discard shoes. If irritation persists, seek the advice of a physician.

INHALATION:

Remove to fresh air. Give artificial respiration if not breathing. Oxygen may be given by qualified personnel if breathing is difficult. Obtain medical attention.

EYES:

Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain medical attention if symptoms persist.

NOTES TO PHYSICIAN:

If only a small amount of this product has been ingested and if there is likely to be a significant delay before emergency medical help is available, then in the absence of signs and symptoms of CNS depression or convulsions, and when the gag reflex is intact, ipecac may be used to produce vomiting,. If vomiting is induced, the patient's head and upper body must be kept at a lower level than the hips to assist in the prevention of aspiration. Aspirated material may cause severe lung damage and present a significant hazard.

6. STABILITY AND REACTIVITY DATA

STABILITY: Stable.

CONDITIONS TO AVOID: Avoid contact with elevated temperatures, open flame and other ignition sources.

INCOMPATIBILITY: Oxidizing materials and strong alkalies can cause a reaction.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS:

Burning can produce carbon monoxide, carbon dioxide, oxides of silicon, and hydrocarbons. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant. Acute overexposure to the products of



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combustion may result in irritation of the respiratory tract.

HAZARDOUS POLYMERIZATION: Will not occur.

7. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal.

WASTE DISPOSAL METHOD: Dispose of in accordance with all Federal, State, and local regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE VALUES AND SOURCE: None.

RESPIRATORY PROTECTION:

Use NIOSH approved respirator or self-contained breathing apparatus as needed to maintain person's exposure below established Occupational Exposure Values.

VENTILATION: General (mechanical) room ventilation with local ventilation as needed to maintain exposure below established Occupational Exposure Values.

PROTECTIVE GLOVES: PVC-coated.

EYE PROTECTION: Use safety goggles.

OTHER PROTECTIVE EQUIPMENT: Eye bath and safety shower.

9. SPECIAL PRECAUTIONS

WARNING:

Harmful if swallowed or inhaled

Causes skin and eye irritation

May cause dizziness and drowsiness

May cause heart damage

Aspiration may cause lung damage

NOTE: DO NOT INDUCE VOMITING

Keep container closed

Use with adequate ventilation

Avoid breathing vapor, mist, gas

Wash thoroughly after handling

Avoid contact with eyes, skin and clothing

Prevent moist air from entering storage. No smoking around vapors. Contact with aluminum parts in a pressurized fluid system may cause violent reactions.

HMIS FORMAT:

Health: 2

Flammability: 1

Reactivity: 0

10. TRANSPORT INFORMATION



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I.A.T.A. HAZARD CLASSIFICATION:

Proper Shipping Name: 1.1.1 TRICHLOROETHANE 85%
Hazard Class: 6.1
UN Number: UN 2831
UN Packing Group: III
Hazard Label: Poison

11. REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:

The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS".

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQ's) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are:

MATERIAL	CAS NUMBER	CONCENTRATION LEVEL
1:1:1 Trichloroethane	00071-55-6	85%

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQ's) and release reporting based on Reportable Quantities (RQ's) in 40 CFR 355 (used for SARA 302, 304, 3~ 1, and 312). Components present in this product at a level which could require reporting under the statute are:

**** NONE ****

MATERIAL	CAS NUMBER	CONCENTRATION LEVEL
1:1:1 Trichloroethane	00071-55-6	85%

INVENTORY STATUS

The ingredients of this product are listed on, or are exempt from listing on, the TSCA inventory.

STATE-RIGHT-TO-KNOW

CALIFORNIA Proposition 65

This product contains no levels of listed substances, which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute.

MASSACHUSETTS 105 CMR 670.000 Right-To-Know, Substance List (MSL)

Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products. Components present in this product at a level which could require reporting under the statute are:

MATERIAL	CAS NUMBER	CONCENTRATION LEVEL
1:1:1 Trichloroethane	00071-55-6	85%

PENNSYLVANIA Right-To-Know, Hazardous Substance List

Hazardous Substances and Special Hazardous Substances on the List must be identified when present in products.



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Components present in this product at a level which could require reporting under the statute are:

MATERIAL	CAS NUMBER	CONCENTRATION LEVEL
Silica Amorphous	07631-86-9	5%

CALIFORNIA SCAQMD RULE 443.1 VOC'S:

Volatile Organic Components (VOC's) = Substances with vapor pressure of > 0.5 mm Hg at 140°C (219.2°F).

This product contains < 1 % by weight VOC's.

OTHER REGULATORY INFORMATION:

EPA Hazard Categories: Delayed Health Hazard
 Immediate Health Hazard



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MATERIAL SAFETY DATA SHEET TS-403T Part B

Factor II Inc. Technology urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to the use and understanding of the data contained in this MSDS.

To promote safe handling each customer or recipient should: (1) notify and furnish its employees, agents, contractors, customers, and others whom it knows or believes will use this material of the information regarding hazards or safety, (2) request its customers to notify their employees, customers and other users of the product of this information.

1. IDENTIFICATION

PRODUCT NAME: **TS-403 Part B**
CHEMICAL NAME: N/A
CHEMICAL FAMILY: Silicone Dispersion
FORMULA: Proprietary
MOLECULAR WEIGHT: N/A
SYNONYMS: N/A
CAS #: Mixture

2. PHYSICAL DATA (Based on typical material)

BOILING POINT: 162-190°F
SPECIFIC GRAVITY (H₂O=1): 1.16
FREEZING POINT: N/A
VAPOR PRESSURE @20°C: 100mm Hg
VAPOR DENSITY (air=1): 4.6
EVAPORATION RATE (Butyl Acetate =1): N/A
SOLUBILITY IN WATER (By wt): .04%
APPEARANCE: Translucent
ODOR: Mild Sweet
PHYSICAL STATE: High viscosity Liquid
PERCENT VOLATILES (by wt): See Section X

Note: The above information is not intended for use in preparing product specifications.



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3. HAZARDOUS INGREDIENTS (as defined in 29 CFR 1910.1200)

%	MATERIAL	CAS NUMBER	EXPOSURE VALUE
85	1:1:1 Trichloroethane	00071-55-6	See Section V
5	Silica, amorphous, treated	68909-20-6	See Section V

See Section X for chemicals appearing on Federal or State Right-To-Know lists.

4. FIRE AND EXPLOSION DATA

FLASH POINT (test method(s)): None (Tag Closed Cub)

FLAMMABLE LIMITS IN AIR (by volume):

LOWER: N/A UPPER: N/A

EXTINGUISHING MEDIA: Apply alcohol-type or universal-type foams applied by manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical for small fires.

SPECIAL FIRE FIGHTING PROCEDURES: Do not spray a solid stream of water or foam directly into a pool of hot, burning liquid as this may cause frothing, and may intensify the fire. Use self-contained breathing apparatus when fighting fire in an enclosed area.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

5. HEALTH HAZARD DATA

TLV AND SOURCE:

1:1:1 Trichloroethane 350 ppm - 8 hours TWA (ACGIH, OSHA)
450 ppm- Stel/Ceil © (ACGIH, OSHA)

Silica: 10 mg/ni' - 8 hours TWA (ACGIH)
6 mg/m'- 8 hours TWA (OSHA, NIOSH)

EFFECTS OF SINGLE OVEREXPOSURE:

SWALLOWING:

May cause a burning sensation in the stomach, plus nausea and vomiting. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.

SKIN ABSORPTION:

No evidence of adverse effects from available information

INHALATION:

Vapor may be irritating, experienced as discomfort in the nose and throat, and discharge from the nose; respiratory irritation, experienced as cough, headache, nausea, dizziness, drowsiness, weakness, confusion.

SKIN CONTACT:

Prolonged contact can cause local redness with drying and cracking of the skin due to a defatting action.

EYE CONTACT:



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Liquid causes severe irritation, experienced as stinging or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva.

EFFECTS OF REPEATED OVEREXPOSURE:

Long term exposure to 1:1:1 Trichloroethane may produce toxicity, presented as cardiac arrhythmias and or myocardial injury leading to cardiac failure. No injury from silica or other dust should occur during reasonable use. If use creates respirable particles, then some respiratory system injury may occur. However, since the silica in this product is compounded into the polymer matrix, it is not expected to present the same health hazard as neat silica.

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MEDICAL, CONDITIONS AGGRAVATED BY OVEREXPOSURE:

Because of its irritating and defatting properties, this material may aggravate an existing dermatitis.

SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:

1:1:1 Trichloroethane has been shown to cause embryo fetal toxicity and birth defects in laboratory animals, but only at doses which also cause maternal toxicity. There is no information available with respect to its' possible developmental effects in humans. Animals exposed repeatedly to high vapor concentrations (800ppm or greater) of mixed 1:1:1 Trichloroethane suffered hearing loss.

OTHER EFFECTS OF OVEREXPOSURE:

None currently known.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING:

If victim is fully conscious give two glasses of water or milk at once. Do not induce vomiting.. Obtain medical attention immediately.

SKIN:

Remove contaminated clothing and wash skin with soap and water. Wash clothing before reuse. Discard shoes. If irritation persists, seek the advice of a physician.

INHALATION:

Remove to fresh air. Give artificial respiration if not breathing. Oxygen may be given by qualified personnel if breathing is difficult. Obtain medical attention.

EYES:

Immediately flush eyes with water and continue washing for at least 15 minutes. Obtain medical attention if symptoms persist.

NOTES TO PHYSICIAN:

If only a small amount of this product has been ingested and if there is likely to be a significant delay before emergency medical help is available, then in the absence of signs and symptoms of CNS depression or convulsions, and when the gag reflex is intact, ipecac may be used to produce vomiting,. If vomiting is induced, the patient's head and upper body must be kept at a lower level than the hips to assist in the prevention of aspiration. Aspirated material may cause severe lung damage and present a significant hazard.



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6. STABILITY AND REACTIVITY DATA

STABILITY: Stable.

CONDITIONS TO AVOID: Avoid contact with elevated temperatures, open flame and other ignition sources.

INCOMPATIBILITY: Oxidizing materials and strong alkalies can cause a reaction.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS:

Burning can produce carbon monoxide, carbon dioxide, oxides of silicon, and hydrocarbons. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant. Acute overexposure to the products of combustion may result in irritation of the respiratory tract.

HAZARDOUS POLYMERIZATION: Will not occur.

7. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal.

WASTE DISPOSAL METHOD: Dispose of in accordance with all Federal, State, and local regulations.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE VALUES AND SOURCE: None.

RESPIRATORY PROTECTION:

Use NIOSH approved respirator or self-contained breathing apparatus as needed to maintain person's exposure below established Occupational Exposure Values.

VENTILATION: General (mechanical) room ventilation with local ventilation as needed to maintain exposure below established Occupational Exposure Values.

PROTECTIVE GLOVES: PVC-coated.

EYE PROTECTION: Use safety goggles.

OTHER PROTECTIVE EQUIPMENT: Eye bath and safety shower.

9. SPECIAL PRECAUTIONS

WARNING:

Harmful if swallowed or inhaled

Causes skin and eye irritation

May cause dizziness and drowsiness

May cause heart damage

Aspiration may cause lung damage

NOTE: DO NOT INDUCE VOMITING



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Keep container closed
Use with adequate ventilation
Avoid breathing vapor, mist, gas
Wash thoroughly after handling
Avoid contact with eyes, skin and clothing

Prevent moist air from entering storage. No smoking around vapors. Contact with aluminum parts in a pressurized fluid system may cause violent reactions.

HMIS FORMAT:

Health: 2 Flammability: 1 Reactivity: 0

10. TRANSPORT INFORMATION

I.A.T.A. HAZARD CLASSIFICATION:

Proper Shipping Name: 1.1.1 TRICHLOROETHANE 85%
Hazard Class: 6.1
UN Number: UN 2831
UN Packing Group: III
Hazard Label: Poison

11. REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:

The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations.
Trade Secrets are indicated by "TS".

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQ's) in 40 CFR 302.4. Components present in this product at a level which could require reporting under the statute are:

MATERIAL	CAS NUMBER	CONCENTRATION LEVEL
1:1:1 Trichloroethane	00071-55-6	85%

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MATERIAL	CAS NUMBER	CONCENTRATION LEVEL
1:1:1 Trichloroethane	00071-55-6	85%

INVENTORY STATUS

The ingredients of this product are listed on, or are exempt from listing on, the TSCA inventory.



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STATE-RIGHT-TO-KNOW

CALIFORNIA Proposition 65

This product contains no levels of listed substances, which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute.

MASSACHUSETTS 105 CMR 670.000 Right-To-Know, Substance List (MSL)

Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

MATERIAL	CAS NUMBER	CONCENTRATION LEVEL
1:1:1 Trichloroethane	00071-55-6	85%

PENNSYLVANIA Right-To-Know, Hazardous Substance List

Hazardous Substances and Special Hazardous Substances on the List must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

MATERIAL	CAS NUMBER	CONCENTRATION LEVEL
Silica Amorphous	07631-86-9	5%

CALIFORNIA SCAQMD RULE 443.1 VOC'S:

Volatile Organic Components (VOC's) = Substances with vapor pressure of > 0.5 mm Hg at 140°C (219.2°F).

This product contains < 1 % by weight VOC's.

OTHER REGULATORY INFORMATION:

EPA Hazard Categories: Delayed Health Hazard
 Immediate Health Hazard