



Factor II, Incorporated

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MATERIAL SAFETY DATA SHEET A-101 Part A & B

In Case of Emergency Contact 928-537-8387 Factor II, Inc.

Factor II 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. CHEMICAL PRODUCT

PRODUCT NAME: A-101 Part A
CHEMICAL NAME: N/A
CHEMICAL FAMILY: Silicone
FORMULA: Proprietary
MOLECULAR WEIGHT: Mixture
SYNONYMS: N/A
CAS#: Mixture

2. HAZARDOUS INGREDIENTS

%	MATERIAL	CAS#	EXPOSURE VALUE	CLASSIFICATION
25	Calcined diatomaceous earth	68855-54-9	See Section 8	See Section 7
<2	Tetra-n-propyl silicate	00682-01-9	See Section 8	See Section 7

3. HAZARDS IDENTIFICATION

EFFECTS OF SINGLE OVEREXPOSURE:

SWALLOWING:

Small amounts transferred to the mouth by fingers during use, etc., should not injure. Swallowing large amounts may cause digestive discomfort.

SKIN ABSORPTION:

No evidence of adverse effects from available information.

INHALATION:

Short term harmful health effects are not expected from vapor generated at ambient temperature.

SKIN CONTACT:

May cause skin irritation and reddening.

EYE CONTACT:

Direct contact may cause temporary discomfort with mild redness, swelling and irritation.

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EFFECTS OF REPEATED OVEREXPOSURE:

No injury from silica or dust should occur during reasonable use. If use creates respirable particles, 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 hazards as neat silica.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that overexposure is unlikely to aggravate existing medical conditions.

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

Diatomaceous earth may contain up to 75% crystalline silica, which is classified by the IARC as a class 2A carcinogen (probably carcinogenic to humans: limited human evidence sufficient evidence in experimental animals); and by the NTP as a class 2 carcinogen (reasonable anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals).

The EPA has expressed concern regarding the possible adverse health effects resulting from the inhalation of alkoxy silanes and has recommended that administrative and mechanical means be used to minimize exposures.

n-Propanol (which is generated upon exposure to water and or moisture) has been demonstrated to be carcinogenic in lifetime exposure studies in rats when administered orally or subcutaneously.

OTHER EFFECTS OF OVEREXPOSURE

None currently known.

4. FIRST AID MEASURES

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING:

If several ounces or more has been swallowed, and if patient is fully conscious, give two glasses of water and obtain medical attention.

SKIN:

Wash with soap and water.

INHALATION:

Short-term harmful health effects are not expected from vapor generated at ambient temperature. Obtain medical attention if discomfort persists.

EYES:

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

NOTES TO PHYSICIAN:

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

FLASH POINT (test method(s): >275°F (Cleveland Open Cup)

FLAMMABLE LIMITS IN AIR (by volume):

LOWER: N/A

UPPER: N/A

EXTINGUISHING MEDIA:

Apply alcohol-type or universal-type foams by manufacturers' recommended techniques for large fires. Use water spray, carbon dioxide, or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES:

Do not direct 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:

This product contains polydimethylsiloxane which can generate formaldehyde as a byproduct of oxidative thermal decomposition at temperatures greater than 150°C (300°F). See Section 10 for further information.

6. 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.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Normal precautions common to safe manufacturing practice should be followed in handling and storage.

Store below 90°F

Keep container closed, in a cool dry place

S3/S7/S8

Avoid contact with skin and eyes

S24/S25

Health risk from prolonged exposure

R40

Contact with water or moisture can generate potentially explosive concentrations of n-Propanol

Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE VALUES AND SOURCE:

Calcined diatomaceous earth, observe values for Cristobolite:

: 0.1 ppm-8 hours TWA (ACGIH,
0.1-8 hours TWA (respirable dust) (OSHA, NIOSH)

Tetra-n-propyl silicate, observe values for n-Propyl Alcohol, formed on exposure to water or humid air:

200 ppm-8 hours TWA (skin) ACGIH, OSHA, NIOSH
250 ppm- STEL/CEIL (skin) ACGIH, OSHA, NIOSH

RESPIRATORY PROTECTION:

Use NIOSH approved respirator or self-contained breathing apparatus as needed to maintain personal 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. PHYSICAL AND CHEMICAL PROPERTIES (based on typical material)

BOILING POINT: N/A

SPECIFIC GRAVITY (H₂O=1): 1.10

FREEZING POINT: N/A

VAPOR PRESSURE, N/A

VAPOR DENSITY (air=1): N/A

EVAPORATION RATE (Butyl Acetate=1): N/A

SOLUBILITY IN WATER (By wt): Insoluble

APPEARANCE: Gray

ODOR: Slight Odor

PHYSICAL STATE: Liquid

PERCENT VOLATILES (by wt): See Section 15

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

10. STABILITY AND REACTIVITY DATA

STABILITY: Stable.

CONDITIONS TO AVOID: Contact with water or moist/humid air.

INCOMPATIBILITY: Oxidizing materials can cause a reaction. Avoid contact with bases. May evolve h₂ gas when exposed to bases.

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.

Traces of formaldehyde may be generated due to oxidative thermal decomposition at temperatures greater than 150°C (300°F). Exposure to formaldehyde can cause adverse effects such as skin and respiratory sensitization and eye and throat irritation. Formaldehyde is a potential carcinogen. Evaluate and control exposure to formaldehyde when warranted by conditions of use.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

COMPONENT:

Acute Oral LD ₅₀ (mg/kg):	500-5000 (Rat) Inferred from ingredient hazard(s)
Acute Dermal LD ₅₀ (mg/kg):	1000-2000 (Rbt.) Inferred from ingredient hazard(s)
Acute Inhalation LC ₅₀ (mg/l):	2-20 (Rat) Inferred from ingredient hazard(s)
Other:	N/A.
Ames Test:	N/A.

Refer to Section 3 for further discussion of the health hazards associated with this preparation.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:	Complete information not yet available.
CHEMICAL FATE INFORMATION:	Complete information not yet available.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with all Federal, State, and local regulations.

14. TRANSPORT INFORMATION

I.A.T.A. HAZARD CLASSIFICATION: None (not regulated).

15. 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".

CHIP REGULATIONS

Chemicals (Hazards Information and Packaging) Regulations 1993 requires physical-chemical and health hazard determination of all substances and preparations manufactured, transported, stored, modified, or consumed within the EEC. Components present in this product at a level, which could require reporting under the statute, are:

*n-Propyl Alcohol 0071-23-8 Trace Amount

FEDERAL EPA

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:

****NONE****

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 ****

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 3 ~ 3). This information must be included in all MSD S's that are copied and distributed for this material. Components present in this product at a level which could require reporting under this statute are:

*** NONE***

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:

Diatomaceous earth	68855-54-9	25%
*n-Propyl Alcohol	00071-23-8	Trace amount

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:

Diatomaceous earth	68855-54-9	25%
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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.

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OTHER REGULATORY INFORMATION:

EPA Hazard Categories: Delayed Health Hazard
 Immediate Health Hazard

C.H.I.P. Regulations:

Designation:	A-101 A
Symbol:	Xn
Indication of Danger:	Carcinogen
Safety Phrases:	S3/S7/S 8/S24/S25/
(Ref. Sect. 7)	R40

16. OTHER INFORMATION

HMIS FORMAT:

Health: 1*C

Flammability:1

Reactivity: 0

We believe that the information contained herein is current as of the date of this Material Safety Data Sheet, and is offered in good faith. Since the use of this information and of these opinions and the conditions of the use of the product are not within the control of Factor II Technology, it is the user's obligation to determine the conditions of safe use of the product.

Factor II Technology Regulatory Compliance Department

Effective Date: June 9 2003

MATERIAL SAFETY DATA SHEET

CATALYST (for A-101) Part B

Factor II 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.

I. IDENTIFICATION

PRODUCT NAME: **CATALYST**

CHEMICAL NAME AND SYNONYMS: N/App. mixture

CHEMICAL FAMILY: N/App. mixture

FORMULA: N/App. mixture

DOT: (CFR 49) Hazard Classification: Not hazardous per CFR 49

II. PRODUCT COMPOSITION

COMPONENT NAME	CAS #	TYPICAL WT %	OSHA
Stannous octoate	301-10-0		
2Ethylheoic acid	149.57-5	Y >97	
		Y 3	

These substances is identified as hazardous chemicals according to the criteria of the OSHA Communication Standard (29CFR 1910.1200).

III. PHYSICAL DATA

BOILING POINT: Not established

SPECIFIC GRAVITY: 1.25

VAPOR PRESSURE /VAPOR DENSITY: Not est.

MELTING POINT/FREEZING POINT: < 113 deg F

EVAPORATION RATE N/app.

SOLUBILITY IN WATER Insoluble

APPEARANCE and Odor: Colorless to pale yellow liquid with a characteristic odor.

PERCENT VOLATILES: Not established.

IV. FIRE AND EXPLOSION INFORMATION

FLASH POINT: (Test Method): >287°F

FLAMMABLE LIMITS IN AIR, % VOLUME: Not measured

EXTINGUISHING MEDIA: Use water spray, carbon dioxide, or dry chemical.

SPECIAL FIRE FIGHTING PROCEDURES; Contain run off from firefighting turn out gear (full bunker gear) and self-contained breathing apparatus NIOSH approved. Fire fighting equipment should be thoroughly decontaminated after use.

UNUSUAL FIRE AND EXPLOSION HAZARDS: When burned, hazardous, products of combustion including fumes of carbon monoxide, carbon dioxide, and fumes of tin oxide can occur. Avoid breathing fumes from fire exposed material.

EMERGENCY OVERVIEW

CAUSES EYE, SKIN AND ESPIRATORY TRACT IRRITATION

MAY CAUSE BLINDNESS

MAY BE HARMFUL IF SWALLOWED

MAY BE HARMFUL IF ABSORBED THROUGH SKIN

MAY CAUSE ALLERGIC SKIN REACTION

V. HEALTH HAZARD AND PROTECTION DATA

DANGER!

CAUSES EYE, SKIN AND RESPIRATORY TRACT BURNS. MAY CAUSE BLINDNESS

MAY BE HARMFUL IF SWALLOWED OR ABSORBED THROUGH THE SKIN MAY CAUSE ALLERGIC SKIN REACTION

PERSONAL PROTECTION RECOMMENDED:

Eye Protection: Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment available.

Do not wear contact lenses when handling material.

Skin Protection: Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact.

Respiratory Protection: Avoid breathing vapors. Use NIOSH/MSHA approved full-face respirator when airborne exposure limits are exceeded..

FIRST AID FOR EXPOSURE:

EYES & SKIN: Flush with water for at least 15 minutes while removing contaminated clothing and shoes. Get medical

attention immediately. Wash clothing before reuse. Destroy contaminated shoes.

INGESTION: Do not induce vomiting. Give water to drink. Get medical attention immediately.

INHALATION: Remove to fresh air. Give oxygen or artificial respiration if not breathing. Get immediate medical attention.

POTENTIAL HEALTH EFFECTS:

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this CATALYST. Based on its composition, it is anticipated to be slightly toxic if swallowed or absorbed through skin, no more than slightly toxic if inhaled, and moderately to severely irritating to eyes and skin, or may possibly cause burns. Repeated or prolonged contact may cause an allergic skin reaction. EHA mist may be severely irritating or corrosive to the eyes nose, throat and respiratory tract. If swallowed, may cause burns to the mouth, throat and digestive tract due to the presence of EHA. Workers with lung disease or diminished respiratory capacity should limit exposure to this material.

VI. SPILL AND LEAK PROCEDURES

Evacuate the hazard area of unprotected personnel.

SPILL RESPONSE; Stop the leak, if possible. Ventilate the space involved. Contain, sweep up, place in container for disposal. Prevent waterway contamination; construct a dike to prevent spreading. Avoid generation of vapors.

Decontaminate area. Consult and comply with Federal, State, and local regulations concerning any release of hazardous materials into the water, water piping systems, ground, or air. Consult and comply with Federal, State and local regulations concerning removal of waste.

VII. STABILITY & REACTIVITY DATA

Stability: This material is chemically stable under normal and anticipated storage and handling conditions.

Conditions to avoid: None known.

Incompatibility: Contact with bases may result in a low energy release.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: None known.

VIII. STORAGE & HANDLING

Handling: Do not get in eyes, on skin, or on clothing. do not taste or swallow. do not breathe vapor. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Storage: This material is not hazardous under normal storage conditions; however, material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage. Upon storage in direct sunlight, this product may degrade to an inorganic tin salt.

IX. TRANSPORT INFORMATION

DOT Proper Shipping Name: Not regulated

DOT Hazard class: N/App.

Technical Shipping Name: N/App

DOT Label & ID #: N/App.

X. REGULATORY INFORMATION

SARA HAZARD CLASSIFICATION Title III Rules (20CFRPart 370)

Immediate (Acute) Health:	Yes	Sudden Release of Pressure:	No
Delayed (Chronic) Health:	Yes	Reactive:	No
		Fire:	No

The ingredients listed in this product are all on the TSCA inventory.

XI. TOXICOLOGICAL INFORMATION

STANNOUS OCTOATE

Single exposure (acute) studies indicate:
Oral- Slightly Toxic to Rats
Dermal- No more than slightly Toxic To Rts
Eye irritation- Moderately irritating to Rabbits
Skin irritation- Moderately irritating to Rabbits

ETHYLHEXOIC ACID

Single exposure (acute) studies indicate:
Oral-Slightly Toxic to Rats
Dermal-Slightly Toxic to Rabbits
Inhalation –No More than slightly tosic to Rats
Eye Irritation-Corrosive to Rabbits
Skin Irritation-Severely Irritation to Corrosive to Rabbits

Stannous Octoate 97%

Single exposure (acute) studies indicate that stannous octoate is slightly toxic to rats if swallowed (LD50 3, 400 mg/kg), no more than slightly toxic to rats if absorbed through skin (ld50 >2,000 mg/kg), and moderately irritating to rabbit eyes and skin. Skin allergy and irritation were observed in guinea pigs following repeated application of stannous octoate. Stannous octoate produced no genetic changes in a standard test using bacterial cells.

XII. ECOLOGICAL INFORMATION

An ecological effect study has not been conducted and no information on this or similar mixtures was found in a search of scientific literature. However a component of this material has been tested and the data summarized below.

Ethyl Hexanoic Acid (EHA): Slightly toxic to fathead minnow on an acute basis with LC50 value of 70mg/1. EHA produced a dose-related increase in the number of malformations in frog embryos.

Ethylhexoic Acid: The log kow of EHA was determined to be 2.67. The theoretical oxygen demand ThOD for EHA was determined to be 2.44 g oxygen/g. The 20 day Biochemical Oxygen Demand BOD for EHA was determined to be 83% of the ThOD. EHA is expected to biodegrade and is not expected to persist for long periods in an aquatic environment.

State Right to Know Programs

California Proposition 65

This product does contain chemicals, as indicated below, currently on the California List of known Carcinogens and Reproductive Toxins.

****None****

Massachusetts- New Jersey- Pennsylvania Right to Know States:

This product does contain the following chemicals currently, as indicated below, on the Hazardous Substance List, and if identified any additional lists of these States.

*****STANNOUS OCTOATE*****

SARA Title III, Section 302 & 313

This product does not contain chemicals currently on the Extremely Hazardous Substance List.

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