

MATERIAL SAFETY DATA SHEET

ACCUFLO™ 1513 SPIN-ON POLYMER

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ACCUFLO™ 1513 SPIN-ON POLYMER

OTHER/GENERIC NAMES: Planarization coating material.

PRODUCT USE: Planarization coating, smoothing layer, and/or protective coating for electronic devices/materials.

MANUFACTURER: AlliedSignal
101 Columbia Road, Box 1139
Morristown, New Jersey 07962-1139

FOR MORE INFORMATION CALL:
(Monday-Friday, 9:00am-4:30pm)(EST)
Product Safety Department: (201)-455-4157

IN CASE OF EMERGENCY CALL:
(24 Hours/Day, 7 Days/Week)
(201)-455-2000.

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS #</u>	<u>WEIGHT %</u>
Proprietary Polymer P001	Trade Secret	20-50
Methyl Isobutyl Ketone	108-10-1	45-80
Butyl Alcohol, N-	71-36-3	0-5

Trace impurities and additional material names not listed above may also appear in the Regulatory Information section (#15) towards the end of the MSDS. These materials may be listed for local "Right to Know" compliance and for other reasons.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Clear yellow volatile flammable liquid. Has odor of ketone. Liquid can cause irritation to human tissues. Do not get on skin, eyes, or clothing, and do not breath in vapors.

POTENTIAL HEALTH HAZARDS:

SKIN: Material may be readily absorbed through skin to produce toxic effects similar to those described for inhalation. Causes irritation. Repeated or extended contact may also cause erythema (reddening of skin) or dermatitis, resulting from a defatting action on tissue.

EYES: Vapor may irritate eyes. Direct liquid contact causes intense stinging and burning sensations, resulting in inflammation and transient corneal opacity (based on alcohol content).

INHALATION: Vapors, when inhaled, can irritate eyes, nose and throat. Vapors may cause dizziness, weakness, headache, nausea, etc. Gross overexposure may result in respiratory depression and adverse (narcotic) effect on the central nervous system.

INGESTION: May irritate or burn digestive tract, resulting in severe nausea, vomiting and abdominal pain. However, overall toxicity is estimated to be moderate to low, based on toxicity of individual components.

DELAYED EFFECTS: None known

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Ingredients found on one of the OSHA designated carcinogen lists are listed below.

Ingredient Name	NTP Status	IARC Status	OSHA List
No ingredients listed in this section			

4. FIRST AID MEASURES

SKIN: Promptly wash with plenty of soap and water; then flush with water until all chemical is removed. Remove contaminated clothing and wash before reuse.

EYE: Immediately flush eyes with plenty of water, continuing for at least 15 minutes. If irritation persists, get medical attention and evaluation.

INHALATION: Remove promptly to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen, provided a qualified operator is available. Call a physician.

INGESTION: Do not induce vomiting. If ingested, seek medical attention.

ADVICE TO PHYSICIAN: None

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT: 23° C (based on methyl isobutyl ketone)
FLASH POINT METHOD: Close cup
AUTOIGNITION TEMPERATURE: Not Determined
UPPER FLAME LIMIT (Volume % in air): Not Determined
LOWER FLAME LIMIT (Volume % in air): Not Determined
FLAME PROPAGATION RATE (Solids): Not Determined
OSHA FLAMMABILITY CLASS: 1B Flammable Liquid

EXTINGUISHING MEDIA:

Dry chemical, carbon dioxide, or "alcohol type" foam can be used. Water spray, gently applied can be used as an extinguishing agent.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Vapors will ignite when they reach a source of ignition and are within the flammable range. Avoid using solid hose streams which may cause frothing. Material is not soluble in water.

SPECIAL FIREFIGHTING PRECAUTIONS/INSTRUCTIONS:

Firefighters should wear self-contained, NIOSH-approved breathing apparatus and full protective clothing. Use water spray to keep fire-exposed containers cool and to reduce vapor concentrations. After fire, flush area with water to prevent reignition.

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6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: (Always wear recommended personal protective equipment.)
Remove all ignition sources. Provide personal protection and ventilation. Soak up spill with inert material, such as vermiculite, and collect in covered glass or steel container.

Spills and releases may have to be reported to Federal and/or local authorities. See the Regulatory Information section (#15) regarding reporting requirements.

7. HANDLING AND STORAGE

NORMAL HANDLING: (Always wear recommended personal protective equipment.)
Avoid skin or eye contact; do not get on clothing. Do not breathe product vapor or mist. Keep away from sparks or open flame. Keep container closed and use with adequate ventilation.

STORAGE RECOMMENDATIONS:
Store in a well-ventilated area, out of sun and away from heat and ignition sources. Remove closures carefully to relieve possible internal pressure. Keep upright and protect from damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:
Use in well exhausted areas. Handling should be preferably carried out in a closed system (e.g., exhaust hood). System should be of explosion-proof construction.

PERSONAL PROTECTIVE EQUIPMENT:

SKIN PROTECTION:

For handling in closed ventilation system wear protective gloves and apron (preferred material: butyl rubber). For leak or spills or other emergency situations, use full protective clothing, including boots. Remove immediately any wet contaminated clothing because of flammability hazard.

EYE PROTECTION:

For handling in closed ventilation system recommended above, wear safety glasses with non-perforated side shields. For leak or spill or other emergency use chemical safety goggles and face shield. Do not wear contact lenses.

RESPIRATORY PROTECTION:

None required if handled in closed ventilation system recommended above. For spill, leak or other emergency where mist or vapor are concentrated, use a self-contained breathing apparatus or air-supplied respirator, NIOSH-approved. For lower concentrations, use a cartridge respirator with the appropriate organic vapor cartridge, also NIOSH-approved.

ADDITIONAL RECOMMENDATIONS:

Provide eyewash stations and quick-drench shower facilities.

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EXPOSURE GUIDELINES: (Guidelines exist for the following ingredients)

<u>Ingredient Name</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>Other Limit</u>
Methyl Isobutyl Ketone	50 ppm TWA; 75 ppm STEL	50 ppm TWA; 75 ppm STEL	None
Butyl Alcohol, N-	50 ppm - Ceiling (Skin)	50 ppm - Ceiling (Skin)	None

- * = Limit established by Allied-Signal for internal use.
- ** = Workplace Environmental Exposure Level (AIHA).
- *** = Biological Exposure Index

Other exposure limits for the potential decomposition products are as follows:

Unknown

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear yellow solution
PHYSICAL STATE: Liquid
ODOR: Ketone odor
SPECIFIC GRAVITY: (Water = 1.0) Not Determined
SOLUBILITY IN WATER: (Weight %) < 2% (estimated)
pH: Not Determined
BOILING POINT: Not Determined
MELTING POINT: Not Determined
VAPOR PRESSURE: Not Determined
VAPOR DENSITY: (Air = 1.0) Not Determined
EVAPORATION RATE: Less than 1 Compared to: Ether
% VOLATILES: Greater than 60%
FLASH POINT: 23° C (based on methyl isobutyl ketone)
(Flash point method and additional flammability data are found in section 5.)

10. STABILITY AND REACTIVITY

NORMALLY STABLE? (Conditions to Avoid)
Stable under ordinary conditions of use and storage.

INCOMPATIBILITIES:
Aldehydes, strong oxidants, including halogens, alkalis. Violent reaction with potassium-t-butoxide.

HAZARDOUS DECOMPOSITION PRODUCTS:
Combustion products would include carbon monoxide, carbon dioxide, aldehydes (including formaldehyde), phenols, and aromatic compounds including benzo(a)pyrene.

HAZARDOUS POLYMERIZATION?
Will not occur.

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11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:
None available

DELAYED (SUBCHRONIC & CHRONIC) EFFECTS:
None available

OTHER DATA:
None available

12. ECOLOGICAL INFORMATION

None available

13. DISPOSAL CONSIDERATIONS

RCRA:
Is the unused product a RCRA hazardous waste if discarded? Yes
If yes, the RCRA ID number is: D001

OTHER DISPOSAL CONSIDERATIONS: Disposal of these spin-on polymers may be subject to federal, state and local regulations. Users should review their operations in terms of applicable federal, state and local laws and regulations, then consult with appropriate regulatory agencies before discharging or disposing of waste material. Incineration of waste material in an EPA-approved facility is recommended, allowing a solid, inert residue to form.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

14. TRANSPORT INFORMATION

US DOT HAZARD CLASS: Flammable Liquid

US DOT ID NUMBER: UN1993

For additional information on shipping regulations affecting this material, contact the information number found on the first page.

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA):
TSCA INVENTORY STATUS: All materials are on TSCA inventory.

OTHER TSCA ISSUES: None

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SARA TITLE III/CERCLA:

RQs & TPQs:

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

Ingredient	SARA/CERCLA RQ(lbs)	SARA EHS TPQ(lbs)
Methyl Isobutyl Ketone	5000	None
Butyl Alcohol, N-	5000	None

Spills resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center (1-800-424-8802) and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: Fire. Immediate.

SARA 313 TOXIC CHEMICALS:

The following ingredients are SARA 313 "Toxic Chemicals". CAS #'s and wt.% are found in section #2.

Ingredient	Comment
Methyl Isobutyl Ketone	None
Butyl Alcohol, N-	None

STATE RIGHT TO KNOW:

In addition to the ingredients found in section 2, the following are listed for state right-to-know purposes:

Ingredient	Wt. %	Comment
Methyl Isobutyl Ketone	45-80%	FL, LA, NJ, PA, RI
1-Butanol	0-5%	FL, LA, MA, NJ, PA, RI

ADDITIONAL REGULATORY INFORMATION:

None known

WHMIS CLASSIFICATION (CANADA):

Unknown

FOREIGN INVENTORY STATUS:

Unknown

16. OTHER INFORMATION

CURRENT ISSUE DATE: December 16, 1993
PREVIOUS ISSUE DATE: May 5, 1993

CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:

Name change to reflect product commercialization.

OTHER INFORMATION: For laboratory or manufacturing use. Not for food or drug use. Do not store with foodstuffs.