



MOR-FREE™ L 75-149/C-132-2 **Solventless Laminating Adhesive**

Description and Features

Mor-Free L 75-149/C-132-2 is a solventless, two component, polyurethane adhesive system which is applied at low temperature. Mor-Free L 75-149 is suitable for laminating nylon, polyester, polyethylene, and other packaging polyolefin films, unprinted or reverse printed.

Mor-Free L 75-149/C-132-2 is not recommended for laminating aluminum foil.

Typical Properties*

| | (Isocyanate) Mor-Free L 75-149 | (Polyol) Coreactant C-132-2 |
|---------------------------------------|--|---------------------------------------|
| Solids | 100% | 100% |
| Viscosity ^{77°F} | 2,000 cps | 5000 cps |
| Weight/Gallon | 9.5 lb | 8.15 lb |
| Appearance | Clear, yellow | Clear |
| Odor | Practically none | Practically none |
| Mixing Ratio | 100 pbw | 90 pbw |
| | 100 pbv | 105 pbv |
| Shelf Life** (unopened containers) | 360 days | 360 days |

*These items are provided for general information only. They are approximate values and are not considered part of a product specification.

**Store in tightly closed container in cool, dry place. Keep Mor-Free L 75-149 from freezing.

Mor-Free L 75-149/C-132-2 may react or interact with other components of laminations. Retained volatiles (solvents or water), slip additives, antiblock agents and inks are some of the components that may cause property changes of the laminated structure.

Processing

Mor-Free L 75-149/C-132-2 must be used on machines which have been specially designed for solventless laminations. Such equipment allows the adhesive to be fed through a meter/mix/dispense device and provides web tension controls designed for adhesives with low initial tack.

As the reactivity of Mor-Free L 75-149/C-132-2 is high, the laminates can generally be further processed in as little as 8 hours, depending on the laminate construction. The chemical curing is generally completed within 7 days at 25°C, depending on the laminate construction. As always, converters should verify appropriate cure times for their individual application.

Application Temperature

We recommend the application roll be set at 100°F (38°C), depending on machine design and line speed desired. No preheating of the adhesive or coreactant at the meter/mix/dispense unit is required.

A relatively slow initial increase in viscosity is due to the exothermic reaction of the adhesive immediately after the mixing process and the mechanical influences in the application system.

For short trial runs the adhesive can be batch mixed. We recommend preparation of no more adhesive than can be used within 5-10 minutes. A high speed stirrer suitable for a homogeneous mixing should be used. However, the use of a meter/mix/dispense device which continuously mixes the adhesive at the chosen ratio, controls the feeding of the application unit, and stops production automatically in case of machine failures, is indispensable for extended trials and normal production.

When processing Mor-Free L 75-149, the safety rules for working with isocyanates must be observed. The adhesive contains monomeric MDI. See Material Safety Data Sheet for specific details.

Cleaning

The application unit should be cleaned before the adhesive becomes insoluble by progressive curing, if the machine stops take more than 30 minutes.

If the application unit and mixing devices are combustion proof, they may be cleaned with esters or ketones such as ethyl acetate and MEK.

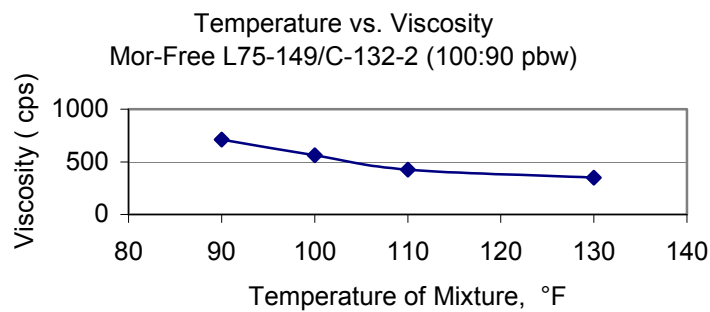
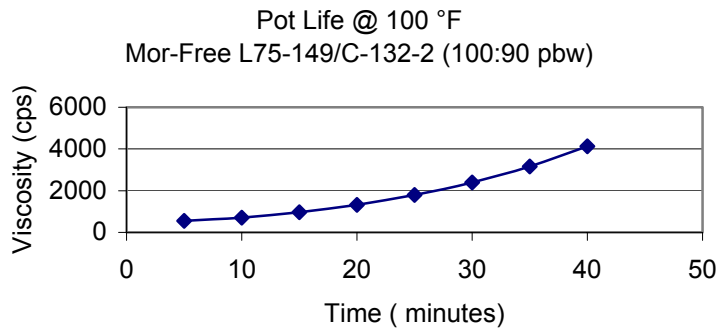
Several commercially available solvents are safe and effective for flushing and cleaning Mor-Free adhesive residues from solventless laminators and meter/mix/dispensing equipment that do not have combustion proof ratings. We recommend contacting either Dynaloy, Inc. (800-669-5709; www.dynaloy.com), or Danko Industries (630-882-6070) for cleaning solvent recommendations. Always consult the solvent supplier's MSDS for safety information before use.

Storage

Mor-Free L 75-149/C-132-2 can be stored in airtight, closed, unmixed, original containers in dry rooms at temperatures of 70° ± 15°F. Opened containers should be used as quickly as possible. Both Mor-Free L75-149 and C-132-2 should be protected from freezing.

Safety, Handling and Storage

- Store in cool, dry, well ventilated area away from heat and ignition sources. Keep container tightly closed.
- Follow good manufacturing and handling practices.
- Wash thoroughly after handling. Wash contaminated goggles, faceshield, and gloves. Professionally launder contaminated clothing before re-use.
- ATTENTION! Container can be hazardous when empty. Follow label warnings even after container is empty. Do not reuse empty container without professional cleaning.
- Refer to Material Safety Data Sheet for more information.



MOR-FREE is a registered trademark of Rohm and Haas Company

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and method of use of our products are beyond our control. We recommend that the prospective user determine the suitability of our materials and suggestions before adopting them on a commercial scale.

Suggestions for uses of our products or the inclusion of descriptive material from patents and the citation of specific patents in this publication should not be understood as recommending the use of our products in violation of any patent or as permission or license to use any patents of the Rohm and Haas Company.

Visit us at <http://www.rohmhaas.com/AdhesivesSealants>

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Rohm and Haas Food and Drug Opinion

Product Name: MOR-FREE™ L 75-149

| Regulation Number | Complies | Limitations | Opinion Date |
|--------------------------|-----------------|--------------------|---------------------|
| 21CFR175.105 | Y | | Sep 04, 2003 |

Legend:

Y Yes, this product is cleared.

Regulations:

21CFR175.105 ADHESIVES

Name: MOR-FREE C-132-2

| Regulation | Complies | Opinion Date | Limitations |
|-------------------|-----------------|---------------------|--------------------|
| 21CFR175.105 | Y | 04/04/2008 | |

Legend:

L Yes, this product is cleared with limitations noted
N No, this product is not cleared
Y Yes, this product is cleared.
A Affirmed as compliant based on migration studies.

Regulations:

21CFR175.105 Adhesives
21CFR177.1395 Laminate structures for use at temperatures between 120F and 250F

Disclaimer:

This information relates specifically to this product. We believe this information to be accurate and reliable as of this date.

We recommend that our customers make their own determination on the suitability of this product for their particular application.

We cannot guarantee that the indirect food additives/food-contact status of this product will remain unchanged indefinitely; therefore we recommend that you periodically verify its status.
