

NUMBER 4914

## V-Cap™/TP (N-vinyl caprolactam)

*Reactive Monomer*

### Description

V-Cap/TP is a versatile reactive diluent for free radical radiation curable coatings, inks, and adhesives for use on a wide variety of substrates. V-Cap can be handled as a super cooled liquid and can remain as a liquid at room temperature for extended periods of time.

### Key Attributes

- Low viscosity
- Increased cure speed
- Improved adhesion
- Enhanced hardness
- Imparts hydrophobicity and surface activity due to the 7-member ring

### Applications and Usage Notes (see Technical Information Bulletin “PC-12223”, V-Pyrol V-Cap or additional information)

- Inks – screen and inkjet
- Adhesives
- Specialty coatings – vinyl flooring, wood coating, release coating
- Specialty applications – monomer used for production of homo-, co-, and terpolymers

### Typical Product Properties

Property	V-Cap/TP
Molecular Weight	139
Assay (%)	98.0
Physical Form	Solid
Appearance	Light yellow crystalline <sup>1</sup>
Density	1.029
Freezing Point	35°C
Boiling Point	116°C @ 10mmHg
Viscosity (cps)	3.51 @ 40°C
Vapor Pressure @ 20°C	<0.1m
Vapor Pressure @ 70°C	1.2m

<sup>1</sup> Can exist as a super cooled liquid below its freezing/melting point

## Packaging Information

Product	Physical Form	Pkg Type	Net Wgt (lbs)	Net Wgt (kgs)
V-Cap™/TP	Liquid	Steel Drum	100 lbs	45.4 kgs
V-Cap/TP	Liquid	Steel Drum	440 lbs	199.6 kgs

## Product Safety Information

For health and safety data and handling, storage and disposal procedures, please refer to the Safety Data Sheet (SDS) and product label.

CAS Registry No. 2235-00-9

## Stability

V-Cap/TP monomers, like most reactive diluents, should be stored under ambient conditions or just above melting point and used within six months of purchase. When formulated with acrylates, stability is generally excellent but decreases with increasing acidity.

### Special Handling Requirements

Please note that V-Cap diluents has a freezing point of 95°F (34°C) and is normally a solid at room temperature. However, it readily supercools and thus will often remain a liquid for extended periods of time at room temperature. The supercooled liquid will spontaneously crystallize if seeded. The crystallization process is exothermic, the temperature rapidly reaching, but never exceeding the freezing point (34°C).

### Melting Instructions

During the freezing process, some stratification of the stabilizer may occur, therefore, to insure product quality and consistency, it should be melted and thoroughly mixed prior to use. V-Cap diluent may be safely melted by placing the container in a constant temperature water bath or heated room, no warmer than 120°F (49°C).

Melting in drums is expected to require several days. Steam or electrical heating systems, which generate localized hot spots, should never be used to melt this product. Material being melted should be agitated at regular intervals to assure redistribution of the polymerization inhibitor and oxygen.

Prolonged storage at elevated temperatures will cause yellowing and polymer formation and should be avoided. This result emphasizes the importance of storing V-Cap and V-Pyrol diluents at room temperature. Repeated freezing and thawing of V-Cap diluent is not expected to cause stability problems if care is taken to redistribute the stabilizer during melting. V-Cap subjected to 24 freeze/thaw cycles shows no decrease in GC purity and no polymer formation.

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