



# Material Safety Data Sheet

## Section 1 : PRODUCT AND COMPANY IDENTIFICATION

### 04-070 THINNER

For use with U.V. Curable Screenprinting Inks

North America:  
**NOR-COTE INTERNATIONAL, INC.**  
506 Lafayette Avenue  
Crawfordsville, Indiana 47933 USA  
Phone: 765-362-9180 (day phone)  
MSDS Issuer: EHS Department  
**Emergency Phone:**  
**CHEMTREC (United States)**  
**800-424-9300**

Europe:  
**NOR-COTE INTERNATIONAL LTD.**  
Unit 8 Warrior Park  
Eagle Close  
Chandlers Ford Industrial Estate  
Eastleigh, Hampshire  
SO53 4NF England  
Tel: +44 (0) 23 80270542 (day phone)  
**Emergency Phone:**  
**CHEMTREC (Outside U.S.)**  
**703-527-3887**

Asia:  
**NOR-COTE INTERNATIONAL PTE. LTD.**  
768 North Bridge Road  
Singapore 198736  
Tel: +65 629 1-0898 (day phone)

## Section 2 : INGREDIENT INFORMATION

C.A.S.	CONCENTRATION %	INGREDIENT	LD/50	LC/50	EINECS#
88-12-0	25	N-VINYL-2-PYRROLIDONE	1470 MG/KG RAT ORAL 560 MG/KG RABBIT DERMAL	3200 MG/M3/4H RAT INHALATION	201-800-4
PROPRIETARY	2	PHOTOINITIATORS	NOT AVAILABLE	NOT AVAILABLE	PROPRIETARY
PROPRIETARY	73	ACRYLATE MONOMERS	NOT AVAILABLE	NOT AVAILABLE	PROPRIETARY

## Section 3 : HAZARD IDENTIFICATION

**Route of entry:** Dermal, Inhalation, Ingestion

**General Health Effects:** Irritant to skin, eyes and respiratory tract  
Effects may be delayed for several hours

**Effects of acute exposure:**

**Eye contact:** May cause severe irritation

**Skin contact:** May cause allergic reaction  
Possible irritant  
Repeated or prolonged contact may cause sensitization

**Skin absorption:** Harmful if absorbed through skin

**Inhalation:** Harmful if inhaled

**Ingestion:** May be harmful if swallowed

**Effects of chronic exposure:** Possible cancer hazard with N-Vinyl-2-Pyrrolidone, based on animal studies. Animal studies for N-Vinyl-2-Pyrrolidone indicate that inhalation can cause liver and nasal damage

**Medical conditions aggravated by exposure:** Repeated or prolonged overexposure may increase the potential for adverse health effects  
Individuals with pre-existing health disorders and pregnant women should consult their physician before using this product

**HMIS Rating:** Health - 2 Flammability - 1 Physical Hazard - 1 PPE - C

**EC hazard symbols:** Xn - Harmful  
N - Dangerous for the environment

**EU Risk/Safety Phrases:**

R40: Limited evidence of a carcinogenic effect  
R43: May cause sensitization by skin contact  
R20/21/22: Harmful by inhalation, in contact with skin and if swallowed  
R36/37: Irritating to eyes and respiratory system  
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

S23: Do not breathe gas/fumes/vapour/spray  
S24: Avoid contact with skin  
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
S61: Avoid release to the environment. Refer to special instructions/Safety data sheets  
S20/21: When using do not eat, drink or smoke  
S36/37: Wear suitable protective clothing and gloves

#### Section 4: FIRST AID MEASURES

- Skin contact:** Remove contaminated clothing  
Flush affected areas with lukewarm water  
Wash with mild soap and water  
Consult a physician if irritation persists
- Eye contact:** Check for and remove contact lenses  
Flush with running water for 15 minutes, lifting upper and lower lids occasionally.  
If irritation persists, get medical attention
- Inhalation:** Remove victim to fresh air. If breathing is difficult administer oxygen. If not breathing, have qualified person give artificial respiration. Obtain medical attention
- Ingestion:** Do not induce vomiting, seek medical attention  
Never give anything by mouth to an unconscious person

#### Section 5: FIRE FIGHTING MEASURES

- Flammability:** Not flammable
- Conditions of flammability:** At temperatures at or above flash point
- Extinguishing media:** Dry chemical  
Water fog  
Carbon dioxide
- Special procedures:** Self-contained breathing apparatus required  
Firefighters should wear the usual protective gear  
Use water spray to cool fire exposed containers  
Stay upwind if possible  
Evacuate area promptly
- Auto-ignition temperature:** Not available
- Flash point (°C), method:** Open cup  
>93.3°C (>200°F)
- Lower flammability limit (% vol):** Not available
- Upper flammability limit (% vol):** Not available

#### Explosion Data

- Sensitivity to static discharge:** Not available

**Sensitivity to mechanical impact:** Not available

**Hazardous combustion products:** Not available

**Rate of burning:** Not available

**Explosive power:** Closed containers may rupture or explode due to pressure build-up when exposed to extreme heat

## Section 6 : ACCIDENTAL RELEASE MEASURES

**Leak/Spill:** Eliminate all sources of ignition  
Prevent entry into drains, sewers, and other waterways  
Use approved respirator  
Avoid all personal contact  
Ventilate area  
Wear appropriate protective equipment  
Absorb with clay, sand or vermiculite  
Place in a closed container for disposal

## Section 7: HANDLING AND STORAGE

**Handling procedures and equipment:** Protect against physical damage  
Avoid breathing vapors/mists  
Use adequate ventilation  
Wash thoroughly after using, particularly before eating or smoking  
Wear personal protective equipment appropriate to task  
Avoid contact with skin, eyes and clothing

**Storage requirements:** Store away from incompatible materials  
Keep containers closed when not in use  
Keep out of direct sunlight  
Keep away from heat  
Store below 32°C (90°F)

## Section 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Limits:** Not established for mixture.  
N-Vinyl-2-Pyrrolidone (NVP): ACGIH TLV TWA – 0.05ppm

### Precautionary Measures

**Hand protection:** Butyl or Nitrile gloves are recommended. Recommended a minimum of 0.45mm for long duration up to 4 hours or single use disposable for short duration not exceeding 30 minutes

**Respiratory protection:** If exposure limit is exceeded, wear a NIOSH approved organic respirator. If spray, mist, or dust forming conditions are created, a P100 respirator is recommended in addition to organic vapor respirator.

**Eye protection:** Safety glasses, goggles or face shield

**Skin protection:** Wear adequate protective clothes

**Other/Type:** Eye wash facility should be in close proximity

**Ventilation requirements:** Local exhaust at points of emission, to control vapors and mists

## Section 9 : PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Liquid

**Appearance & odor:** Mild odour  
Moderate viscosity

**Odor threshold (ppm):** Not available

**Vapour pressure (mmHg):** Not available

**Vapour density (air=1):** Heavier than air

**Evaporation rate (butyl acetate = 1):** <1

**Boiling point (°C):** Not available

**Freezing point (°C):** Not available

**pH:** Not available

**Specific gravity @ 20 °C:** 1.06346

**Solubility in water (%):** Not soluble

**Coefficient of water\oil dist.:** Not available

**VOC (g/l):** <7.0 g/l

**Density:** 4.02 kg/gal

#### Section 10 : STABILITY AND REACTIVITY

**Chemical stability:** Product is stable under normal handling and storage conditions

**Conditions of instability:** Avoid excessive heat and contamination of any kind  
All ignition sources  
Exposure to UV light

**Hazardous polymerization:** May occur under conditions of instability

**Incompatible substances:** Peroxides  
Strong caustics  
Strong oxidizing agents  
Metal corrosion products

**Hazardous decomposition products:** Oxides of carbon (CO, CO<sub>2</sub>)  
Flammable, irritating or toxic fumes

#### Section 11 : TOXICOLOGICAL INFORMATION

**Toxicological Data:** Slightly toxic by ingestion. Prolonged or repeated exposure may result in sensitization

**LD50 of product, species & route:** Not available for mixture, see the ingredients section

**LC50 of product, species & route:** Not available for mixture, see the ingredients section

**Carcinogenicity:** NVP, one component of this product is a possible cancer hazard based upon animal studies. Carcinogenicity studies (Rat, 2-year inhalation) showed tumors observed in nasal mucosa of both sexes at 20 ppm and in males at 10ppm. Liver and laryngeal tumors at 20ppm and liver damage at 5ppm in both sexes. NVP classified as ACGIH A3 – Confirmed animal carcinogen with unknown relevance to humans.

**IARC:** No

**NTP:** No

**OSHA:** No

**Reproductive effects:** Not available

**Teratogenicity:** Not available

**Mutagenicity:** NVP, one component of this product had no chromosome-damaging effects found and negative results with mutagenicity studies.

**Synergistic materials:** Not available

## Section 12 : ECOLOGICAL INFORMATION

**Ecological information:** No determination has been made on ecological impact. However, it is highly recommended to prevent contamination of environment with this product, i.e. soil, landfills, drains, sewers, surface waters, etc

## Section 13 : DISPOSAL CONSIDERATIONS

**Resource Conservation and Recovery Act (RCRA):** This product is not considered a hazardous waste under US EPA Hazardous Waste Regulations 40 CFR 261

## Section 14 : TRANSPORT INFORMATION

**DOT:** Not regulated

**ICAO/IATA:** Not regulated

**IMO:** Not regulated

**TDG:** Not regulated

## Section 15 : REGULATORY INFORMATION

This Material Safety Data Sheet has been formatted to the best of our ability in accordance with American National Standards Institute (ANSI), European Communities (EC), and contain hazard criteria and all information required by Canadian Controlled Products Regulation (CPR)

### International Regulations

**Canadian Inventory:** All components of this product are currently listed on the Canadian Domestic Substance (DSL), Non Domestic Substance List (NDSL) or, Canadian Transitional List

**Canadian Workplace Hazardous Materials Information System (WHMIS) Classification:** D2B - Materials causing other toxic effects

- European Inventory:** All components of this product are listed on the European Inventory of Existing Commercial Substances (EINECS), the European List of Notified Chemical Substances (ELINCS), or are exempt from being listed. This product is classified and labeled in accordance with EC directives
- Japanese Inventory:** All components of this product are listed on the Ministry of International Trade and Industry (MITI) Inventory of Existing and New Chemical Substances (ENCS) and/or the Industrial Safety and Health Law (ISHL) list.
- Chinese Inventory:** Not available
- Australian Inventory:** All components of this product are currently listed on the Australian Inventory of Chemical Substances (AICS)

### USA Regulatory Information

- CA Proposition 65:** This product does not contain any known chemicals that are considered by the state of California to cause cancer or reproductive harm.
- Clean Air Act - Hazardous Air Pollutants (HAP):** This product does not contain any known Hazardous Air Pollutants
- Clean Air Act - Ozone Depleting Substances (ODS):** This product does not contain any known Ozone Depleting Substances
- Coalition of Northeastern Governors (CONEG):** Meets requirements of CONEG pertaining to heavy metals total content of no more than 100 PPM
- Food and Drug Administration (FDA):** This product has not been cleared by the FDA for use in food packaging and/or other applications as an indirect food additive
- Occupational Safety and Health Act (OSHA):** This product is classified as a class IIIB combustible liquid
- SARA Title III:**
- Section 302 - Extremely Hazardous Substances (EHS):** This product is not regulated as an Extremely Hazardous Substance
- Section 304 - CERCLA:** This product is not regulated for emergency release notification
- Section 311/312 – Hazard Communication Standard (HCS):** Immediate (Acute) Health Hazard: Yes  
Delayed (Chronic) Health Hazard: No  
Fire Hazard: No  
Sudden Release of Pressure: No  
Reactive: No
- Section 313 – Toxic Chemical List:** None known
- TSCA inventory:** All components of this product are listed on the TSCA inventory
- New Jersey/ Pennsylvania/ Massachusetts RTK:** This product may contain trace chemicals not added as a part of the formulation but remaining as residuals that are regulated under certain states RTK regulations

## Section 16: OTHER INFORMATION

**HMIS ratings** are a registered trade and service mark of the National Paint and Coatings Association with the following scale:

\* = Chronic health effect  
4 = Severe Hazard  
3 = Serious Hazard  
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PPE Index  
A = Safety Glasses  
B = Safety Glasses and Gloves  
6/7

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2 = Moderate Hazard  
1 = Slight Hazard  
0 = Minimal Hazard

C = Safety Glasses, Gloves and Protective Apron  
D = Face Shield, Gloves and Protective Apron  
E = Safety Glasses, Gloves and Respirator

**Definitions**

TWA - Time Weighted Average  
TLV - Threshold Limit Value  
STEL - Short Term Exposure Limit  
CAS# - Chemical Abstract Service Number  
NTP - National Toxicology Program  
PEL - Permissible Exposure Limit  
IARC - International Agency for Research on Cancer  
ANSI - American National Standards Institute

**Supersedes:** 2004/12/21

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