



Material Safety Data Sheet

Section 1 : PRODUCT AND COMPANY IDENTIFICATION

02-070 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: 0.99849

Solubility in water (%): Not soluble

Coefficient of water\oil dist.: Not available

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

Density: 3.77 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, CO₂)
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
2 = Moderate Hazard
1 = Slight Hazard
0 = Minimal Hazard

PPE Index
A = Safety Glasses
B = Safety Glasses and Gloves
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: 02-08-2006

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