

SECTION 1: IDENTIFICATION

- Trade name: nora® nTx 020
- Application of the substance / the mixture: nora® nTx Surface bond enhancer
- Details of the supplier of the safety data sheet
- Manufacturer/Supplier:
nora systems, Inc.
9 Northeastern Blvd.
Salem, NH 03079
Toll-Free: 800-332-NORA
- Information department: see Manufacturer/Supplier
- Emergency telephone number: 800-424-9300 CHEMTREC

SECTION 2: HAZARD(S) IDENTIFICATION

- Classification of the substance or mixture



GHS08

- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Carc. 2 H351 Suspected of causing cancer.
- STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

- Acute Tox. 4 H332 Harmful if inhaled.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2A H319 Causes serious eye irritation.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- STOT SE 3 H335 May cause respiratory irritation.

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- Label elements
 - GHS label elements
The product is classified and labeled according to the Globally Harmonized System (GHS).
 - Hazard pictograms: GHS07, GHS08
 - Signal word: Danger
 - Hazard-determining components of labeling:
diphenylmethanediisocyanate, isomeres and homologues
 - Hazard statements
Harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.

nora® nTx 020

Safety Data Sheet

acc. to OSHA HCS

May cause respiratory irritation.

May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements

Obtain special instructions before use.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN: Wash with plenty of water.

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

· NFPA ratings (scale 0 - 4)



Health = 2

Flammability = 1

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 2

Flammability = 1

Reactivity = 0

· Other hazards

NFPA Rating Scale: 0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe.

NFPA is the National Fire Protection Association.

HMIS Rating Scale: 0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe.

HMIS®, the Hazardous Materials Identification System, is a registered mark of the National Paint and Coatings Association (NPCA).

* Chronic (long-term) health effects may result from repeated overexposure.

· Results of PBT and vPvB assessment



· PBT: Not applicable.

· vPvB: Not applicable.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

· Chemical characterization: Mixtures

· Description: 1-K-PUR-Primer

Hazardous ingredients:		
CAS: 9016-87-9	diphenylmethanediisocyanate, isomeres and homologues	75-100%
	 Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373;  Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	

· Additional information:

nora® nTx 020

Safety Data Sheet

acc. to OSHA HCS

The exact percentages of the ingredients have been withheld by the manufacturer as trade secrets.

For the wording of the listed hazard phrases refer to section 16.

SECTION 4: FIRST-AID MEASURES

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· After inhalation:

Supply fresh air; consult doctor in case of complaints.

In case of unconsciousness place patient stably in side position for transportation.

· After skin contact: Immediately wash with water and soap and rinse thoroughly.

· After eye contact:

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. Call a doctor.

· After swallowing: Do not induce vomiting; immediately call for medical help.

· Information for doctor:

· Most important symptoms and effects, both acute and delayed

Allergic reactions

Asthma attacks

· Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: FIRE-FIGHTING MEASURES

· Extinguishing media

· Suitable extinguishing agents:

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· For safety reasons unsuitable extinguishing agents: Water with full jet

· Special hazards arising from the substance or mixture No further relevant information available.

· Advice for firefighters

· Protective equipment: Mouth respiratory protective device.

· Additional information: Flash point: > 200 °C (> 392°F).

SECTION 6: ACCIDENTAL RELEASE MEASURES

· Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

· Environmental precautions: Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

· Protective Action Criteria for Chemicals

nora® nTx 020

Safety Data Sheet

acc. to OSHA HCS

PAC-1:
None of the ingredients is listed.
PAC-2:
None of the ingredients is listed.
PAC-3:
None of the ingredients is listed.

SECTION 7: HANDLING AND STORAGE

- Handling:
 - Precautions for safe handling
Wear suitable protective clothing, gloves and eye/face protection.
Immediately remove all soiled and contaminated clothing.
Avoid contact with the eyes and skin.
Keep away from foodstuffs, beverages and feed.
Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used.
Wash hands before breaks and at the end of work.
- Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
 - Requirements to be met by storerooms and receptacles: No special requirements.
 - Information about storage in one common storage facility: Not required.
 - Further information about storage conditions:
Keep receptacle tightly sealed.
Protect from humidity and water.
Once opened unfinished quantities must be stored in airtight packaging conditions.
- Specific end use(s) No further relevant information available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
- Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Exposure controls
- Personal protective equipment:
- General protective and hygienic measures:
Immediately remove all soiled and contaminated clothing.
Wear suitable protective clothing, gloves and eye/face protection.
Avoid contact with the eyes and skin.
Keep away from foodstuffs, beverages and feed.
Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used.
Wash hands before breaks and at the end of work.

nora® nTx 020

Safety Data Sheet

acc. to OSHA HCS

· Respiratory protection: Not necessary. Ensure that room is well-ventilated during processing. Respiratory protection required in insufficiently ventilated working areas. An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter is recommended (A2-P2).

· Protection of hands:



Use gloves of stable material (e.g. Nitrile) - if necessary tricoted to improve the wearability.

· Material of gloves

Butyl rubber, BR

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.5 mm

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

· Information on basic physical and chemical properties

· General Information

· Appearance:	
Form:	Fluid
Color:	Red
· Odor:	Light
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
· Flash point:	> 200 °C (> 392 °F)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	400 °C (752 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not self igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure at 25 °C (77 °F):	0.0001 hPa

nora® nTx 020

Safety Data Sheet

acc. to OSHA HCS

· Density:	Not determined.
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No further relevant information available.

SECTION 10: STABILITY AND REACTIVITY

- Reactivity No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided:
From approx. 500 °F (260 °C), polymerization and separation of CO₂.
- Possibility of hazardous reactions
May produce violent reactions with bases and numerous organic substances including alcohols and amines.
The product reacts slowly with water resulting in evolution of carbon dioxide. In closed containers, pressure build up could result in distortion, blowing and in extreme cases bursting of the container.
- Conditions to avoid:
Avoid heating to above 104 °F (40 °C) and cooling to below 50 °F (10 °C).
- Incompatible materials:
Uncontrolled exothermic reactions occur with amines and alcohols.
During storage, avoid moisture contamination.
- Hazardous decomposition products:
In a fire, hazardous decomposition products such as smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide, monomer isocyanates, amines and alcohols may be produced.

SECTION 11: TOXICOLOGICAL INFORMATION

- Information on toxicological effects
- Acute toxicity:
- Specific symptoms in biological assay:
- Primary route(s) of entry: Inhalation, skin contact, eye contact, ingestion.
- Primary irritant effect:
 - on the skin: Irritant to skin and mucous membranes.
 - on the eye: Irritating effect.
- Sensitization:
Sensitization possible through inhalation.
Sensitization possible through skin contact.
- Additional toxicological information:
Based on the properties of the isocyanate components and considering toxicological data on similar preparations, this preparation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a

nora® nTx 020

Safety Data Sheet

acc. to OSHA HCS

tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)		
CAS: 9016-87-9	diphenylmethanediisocyanate, isomeres and homologues	3
· NTP (National Toxicology Program)		
None of the ingredients is listed.		
· OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients is listed.		

· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Diphenylmethane-diisocyanate, isomers and homologues

Carcinogenicity: May cause cancer by inhalation. On the basis of these data classification as carcinogenic is therefore required.

Mutagenicity: In vitro and in vivo tests did not show mutagenic effects. Teratogenicity: Did not show teratogenic effects in animal experiments.

Reproductive toxicity/Fertility: Based on available data, the classification criteria are not met.

Carc. 2

SECTION 12: ECOLOGICAL INFORMATION

· Toxicity

· Aquatic toxicity: No further relevant information available.

· Persistence and degradability No further relevant information available.

· Behavior in environmental systems:

· Bioaccumulative potential No further relevant information available.

· Mobility in soil No further relevant information available.

· Additional ecological information:

· General notes: Do not allow product to reach ground water, water course or sewage system.

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

· Other adverse effects No further relevant information available.

SECTION 13: DISPOSAL CONSIDERATIONS

· Waste treatment methods

· Recommendation:

Do not allow product to reach sewage system.

Disposal should be in accordance with local, state or national legislation.

· Uncleaned packaging:

· Recommendation:

Empty contaminated packaging thoroughly. They can be recycled after thorough and proper cleaning.

SECTION 14: TRANSPORT INFORMATION

· DOT, ADR, ADN, IMDG, IATA Void

nora® nTx 020

Safety Data Sheet

acc. to OSHA HCS

· UN proper shipping name	
· DOT, ADR, ADN, IMDG, IATA	Void
· DOT, ADN, IMDG, IATA	
· Class	Void
· DOT, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport/Additional information:	Not regulated as hazardous material according to the above specifications. Avoid heating to above 104 °F (40 °C) and cooling to below 50 °F (10°C).
· UN "Model Regulation":	Void

SECTION 15: REGULATORY INFORMATION

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- SARA (Superfund Amendments and Reauthorization Act)

· EPCRA Section 302 (Extremely Hazardous Substances):	
None of the ingredient is listed.	
· SARA Title III Section 313 (Toxic Release Inventory - TRI):	
CAS: 9016-87-9	diphenylmethanediisocyanate, isomeres and homologues
· TSCA (Toxic Substances Control Act):	
All ingredients are listed.	

- Proposition 65 (California)

· Chemicals known to cause cancer:	
None of the ingredients is listed.	
· Chemicals known to cause reproductive toxicity for females:	
None of the ingredients is listed.	
· Chemicals known to cause reproductive toxicity for males:	
None of the ingredients is listed.	
· Chemicals known to cause developmental toxicity:	
None of the ingredients is listed.	

- Carcinogenicity categories

· EPA (Environmental Protection Agency)		
CAS: 9016-87-9	diphenylmethanediisocyanate, isomeres and homologues	D;CBD
· TLV (Threshold Limit Value established by ACGIH)		
None of the ingredients is listed.		
· NIOSH-Ca (National Institute for Occupational Safety and Health)		
None of the ingredients is listed.		

- GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms GHS07, GHS08
- Signal word Danger
- Hazard-determining components of labeling:
diphenylmethanediisocyanate, isomeres and homologues

nora® nTx 020

Safety Data Sheet

acc. to OSHA HCS

- Hazard statements Harmful if inhaled. Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Suspected of causing cancer. May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
- Precautionary statements
Obtain special instructions before use.
Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN: Wash with plenty of water.
If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.
If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

SECTION 16: OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Recommended restriction of use: For Professional Use Only.
- Contact: see Manufacturer/Supplier
- Date of preparation / last revision: 11/29/2017
- Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA) PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit REL: Recommended Exposure Limit Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A Resp. Sens. 1: Respiratory sensitization – Category 1
Skin Sens. 1: Skin sensitization – Category 1
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2