

Safety Data Sheet

prepared to UN GHS Revision 3



1. Identification of the Substance/Mixture and the Company/Undertaking

- 1.1 Product Identifier** 01N000 **Revision Date:** 06/10/2014
Product Name: NULEASE VARNISH STD **Supersedes Date:** New SDS
- 1.2 Relevant identified uses of the substance or mixture and uses advised against** Monocomponent industrial coating - Industrial use.
- 1.3 Details of the supplier of the safety data sheet**
- Manufacturer:** USL
Kingston House
3 Walton Road
Pattinson North
Washington
Tyne & Wear
NE 38 8QA
Regulatory /Technical Information:
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- Datasheet Produced by:** Norton, Catherine - info@ usluk.com
- 1.4 Emergency telephone number:** CHEMTREC +1 703 5273887 (Outside US)

2 Hazard Identification

2.1 Classification of the substance or mixture

Hazardous to the aquatic environment, Chronic, category 2
Carcinogenicity, category 2
Eye Irritation, category 2
Flammable Liquid, category 3
Respiratory Sensitizer, category 1
STOT, repeated exposure, category 2
STOT, single exposure, category 3, RTI
Skin Irritation, category 2
Skin Sensitizer, category 1

2.2 Label elements

Symbol(s) of Product



Signal Word

Danger

Named Chemicals on Label

naphthalene, 4,4'-methylenediphenyl diisocyanate, diphenylmethane-2,4'-diisocyanate, isocyanic acid, polymethylenepolyphenylene ester

HAZARD STATEMENTS

Hazardous to the aquatic environment, Chronic, category 2	H411	Toxic to aquatic life with long lasting effects.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
Other EU extensions	EUH204	Contains isocyanates. May produce an allergic reaction.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Flammable Liquid, category 3	H226	Flammable liquid and vapour.
Respiratory Sensitizer, category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.
STOT, single exposure, category 3, RT1	H335	May cause respiratory irritation.
Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.

PRECAUTION PHRASES

P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation wear respiratory protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P308+313	IF exposed or concerned: Get medical advice/attention
P314	Get medical advice/attention if you feel unwell.
P332+313	If skin irritation occurs: Get medical advice/attention.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P341	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P391	Collect spillage.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

Not applicable

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/vPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients**3.1 Substances****Hazardous Ingredients**

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>%</u>
64742-94-5	solvent naphtha (petroleum), heavy arom.	25-50
9016-87-9	isocyanic acid, polymethylenepolyphenylene ester	10-25
8008-20-6	kerosene	10-25
101-68-8	4,4'-methylenediphenyl diisocyanate	2.5-10
91-20-3	naphthalene	2.5-10
5873-54-1	diphenylmethane-2,4'-diisocyanate	1.0-2.5
2536-05-2	2,2'-methylenediphenyl diisocyanate	0.1-1.0
4083-64-1	tosyl isocyanate	0.1-1.0
64742-95-6	solvent naphtha (petroleum), light arom.	0.1-1.0
98-59-9	tosyl chloride	<0.1

<u>CAS-No.</u>	<u>GHS Symbols</u>	<u>GHS Hazard Statements</u>	<u>MFactors</u>
64742-94-5	GHS08	H304	0
9016-87-9	GHS06-GHS08	H315-317-319-330-334-335-351-373	0
8008-20-6	GHS08	H304	0
101-68-8	GHS07-GHS08	H315-317-319-332-334-335-351-373	0
91-20-3	GHS07-GHS08-GHS09	H302-351-400-410	0
5873-54-1	GHS06-GHS08	H315-319-330-334-335	0
2536-05-2	GHS06-GHS08	H315-319-330-334-335	0
4083-64-1	GHS07-GHS08	H315-319-334-335	0
64742-95-6	GHS08	H304	0
98-59-9			0

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures**4.1 Description of First Aid Measures**

AFTER INHALATION: Move to fresh air. Give oxygen or artificial respiration if needed. Consult a physician after significant exposure. Keep respiratory tract clear. Remove person to fresh air. If signs/symptoms continue, get medical attention.

Provide fresh air, rest and warmth. Call a physician immediately. Give oxygen or artificial respiration if needed. When risk of unconsciousness, place and transport the victim in secured recovery position.

AFTER SKIN CONTACT: Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Do not use solvent or thinners to clean skin.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. If eye irritation persists, consult a specialist.

AFTER INGESTION: Gently wipe or rinse the inside of the mouth with water. Give small amounts of water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately. If vomiting occurs spontaneously: Keep head below hips to prevent aspiration of stomach vomit into lungs. Provide fresh air, rest and warmth. Do not induce vomiting. Get immediate medical attention. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Flammable. Reacts violently with water. Harmful by inhalation. Do not ingest. Irritating to eyes and skin. Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact. May be harmful if swallowed. Risk of serious damage to the lungs (by aspiration). Vapours may cause drowsiness and dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11. When symptoms persist or in all cases of doubt seek medical advice. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting Measures

5.1 Extinguishing Media:

Alcohol Foam, Carbon Dioxide, Dry Chemical, Water Fog

FOR SAFETY REASONS NOT TO BE USED: Alcohol, Alcohol based solutions, any other media not listed above. Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Heating or fire conditions liberates toxic gas. Flash back possible over considerable distance. As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Vapours may form explosive mixtures with air. Solvent vapours are heavier than air and may spread along floors and ignite.

5.3 Advice for firefighters

Flash back possible over considerable distance. In the event of fire, wear self-contained breathing apparatus. Water spray/Dry powder/Alcohol-resistant foam/Carbon dioxide (CO₂)/High volume water jet. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Keep containers and surroundings cool with water spray.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Remove all sources of ignition.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains. Keep the container open. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local /national regulations (see section 13). Clean with detergents. Avoid solvents.

6.4 Reference to other sections

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. Handling and Storage

7.1 Precautions for safe handling

INSTRUCTIONS FOR SAFE HANDLING: Keep containers dry and tightly closed to avoid moisture absorption and contamination. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Vapours may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Electrical equipment should be protected to the appropriate standard. Preparation may charge electrostatically: always use earthing leads when transferring from one container to another. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used. Use only in area provided with appropriate exhaust ventilation. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Wear personal protective equipment. Open drum carefully as content may be under pressure. Do not breathe vapours or spray mist. Use only explosion-proof equipment. Keep away from sources of ignition - No smoking. Avoid breathing vapors, mist or gas. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used. Avoid contact with skin, eyes and clothing. Apply technical measures to comply with the occupational exposure limits (see section 8).

PROTECTION AND HYGIENE MEASURES: Wash hands before breaks and at the end of workday. Keep away from food,

drink and animal feeding stuffs. When using, do not eat, drink or smoke. Wash hands before eating, drinking, or smoking.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Direct sources of heat. Avoid heat, sparks, flames and other ignition sources.

STORAGE CONDITIONS: Store in original container. Store in upright position only. Keep containers tightly closed in a cool, well-ventilated place. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons. Storage of flammable liquids. Contamination may result in dangerous pressure increases - closed containers may rupture. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Store away from: oxidising materials, acids, and alkalis. Store in upright position only. Storage of flammable liquids.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (UK WELS)

Name	%	LTEL ppm	STEL ppm	STEL mg/m ³	LTEL mg/m ³	OEL Note
solvent naphtha (petroleum), heavy arom.	25-50					
isocyanic acid, polymethylenepolyphenylene ester	10-25			0.07	0.02	
kerosene	10-25					
4,4'-methylenediphenyl diisocyanate	2.5-10			0.07	0.02	
naphthalene	2.5-10					
diphenylmethane-2,4'-diisocyanate	1.0-2.5			0.07	0.02	
2,2'-methylenediphenyl diisocyanate	0.1-1.0					
tosyl isocyanate	0.1-1.0					
solvent naphtha (petroleum), light arom.	0.1-1.0					
tosyl chloride	<0.1					

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required. Always wear a self-contained breathing apparatus or full-face airline respirator when using this chemical. Wear respiratory protection with combination filter (dust and gas filter, EN 141) during spraying operations: Gas filter type A1 (organic substances). Dust filter P3 (for fine dust). Ensure adequate ventilation, especially in confined areas.

EYE PROTECTION: Tightly fitting safety goggles. Safety glasses with side-shields if splashes are likely to occur, wear: Face-shield, tightly fitting safety goggles.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves. Take note of the information given by the producer concerning permeability and breakthrough times, and of special workplace conditions (mechanical strain, duration of contact). Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the breakthrough time measured according to EN 374, due to the numerous outside influences (e.g. temperature). Long sleeved clothing. Remove and wash contaminated clothing before re-use. Use chemical resistant gloves and lotions and barrier creams to prevent drying of the skin. Use chemical resistant gloves (EN 374): Butyl rubber. PVA.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Brown Liquid
Physical State	Liquid
Odor	Aromatic Solvent
Odor threshold	Not determined
pH	Not determined
Melting point / freezing point (°C)	Not determined
Boiling point/range (°C)	155 - 181
Flash Point, (°C)	41
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	10 - 20
Vapour Pressure, mmHg	Not determined
Vapour density	Not determined
Relative density	Not determined
Solubility in / Miscibility with water	Immiscible In Water (Reacts)
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	>450°C
Decomposition temperature (°C)	Not determined
Viscosity	Not determined
Explosive properties	Not determined
Oxidising properties	Not determined

9.2 Other information

VOC Content g/l:	0
Specific Gravity (g/cm³)	0.950

10. Stability and Reactivity

10.1 Reactivity

No reactivity hazards known under normal storage and use conditions. Reacts violently with amines and alcohol. Preparation reacts slowly with water resulting in evolution of CO₂.

10.2 Chemical stability

Stable under recommended storage conditions. Container can be pressurized by carbon dioxide due to reaction with humid air and/or water. Risk of ignition. Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Direct sources of heat. Avoid heat, sparks, flames and other ignition sources.

10.5 Incompatible materials

Keep away from oxidising agents, strongly acid or alkaline materials, as well as of amines, alcohols and water. Strong oxidizing agents.

10.6 Hazardous decomposition products

Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke. Carbon monoxide, carbon dioxide, nitrogen oxide, cyanides, isocyanate vapours.

11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity:

Oral LD50:

Inhalation LC50:

Irritation: No information available.

Corrosivity: No information available.

Sensitization: No information available.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.

Data on individual components are tabulated below.

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
9016-87-9	isocyanic acid, polymethylenepolyphenylene ester	>10000 mg/kg	>9400 mg/kg	0.49 mg/l (4 h, Aerosol. rat)
101-68-8	4,4'-methylenediphenyl diisocyanate	15000 mg/kg oral		43 ppm vapor 4hrs
5873-54-1	diphenylmethane-2,4'-diisocyanate	>2000 mg/kg	>9400 mg/kg	0.387 mg/l
2536-05-2	2,2'-methylenediphenyl diisocyanate	>2000 mg/kg		0.527 mg/l
4083-64-1	tosyl isocyanate	2600 mg/kg oral, rat		
64742-95-6	solvent naphtha (petroleum), light arom.	4700 mg/kg, oral, rat	>2000 mg/kg	3670 ppm/8 hours, rat, inhalation

Additional Information:

Allergic persons and workers with difficulty in breathing should not be employed in powder application. Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effect, such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system. Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates. Respiration of solvent vapour may cause dizziness. May cause allergic respiratory reaction. May cause allergic skin reaction. Isocyanates may cause acute irritation and/or sensitisation of the respiratory system leading to tightness of the chest, wheeziness and an asthmatic condition. Chronic exposure has been associated with various neurotoxic effects including permanent brain damage. Inhalation of vapour of mist can cause headache, nausea, irritation of nose, throat, and lungs. Hot processing of this material release isocyanate containing vapours, known to be toxic by inhalation.

12. Ecological Information

12.1 Toxicity:	
EC50 48hr (Daphnia):	No information
IC50 72hr (Algae):	No information
LC50 96hr (fish):	No information
12.2 Persistence and degradability:	No information
12.3 Bioaccumulative potential:	No information
12.4 Mobility in soil:	No information
12.5 Results of PBT and vPvB assessment	The product does not meet the criteria for PBT/vPvB in accordance with Annex XIII.
12.6 Other adverse effects:	No information

<u>CAS-No.</u>	<u>Chemical Name</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
64742-94-5	solvent naphtha (petroleum), heavy arom.	No information	No information	
9016-87-9	isocyanic acid, polymethylenepolyphenylene ester	No information	1640 mg/l	>1000 mg/l
8008-20-6	kerosene	No information	No information	No information
101-68-8	4,4'-methylenediphenyl diisocyanate	>1000 mg/l	No information	>1000 mg/l
91-20-3	naphthalene	No information	No information	
5873-54-1	diphenylmethane-2,4'-diisocyanate	>1000 mg/l	>1640 mg/l	>1000 mg/l
2536-05-2	2,2'-methylenediphenyl diisocyanate	>1000 mg/l	>1640 mg/l	>1000 mg/l
4083-64-1	tosyl isocyanate	No information	No information	
64742-95-6	solvent naphtha (petroleum), light arom.	>1 - 10 mg/l	>1 - 10 mg/l	>10-100 mg/l
98-59-9	tosyl chloride	No information	No information	No information

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal. Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local state, and federal regulations. Do not dispose of waste with normal garbage, or to sewer systems.

14. Transport Information

14.1	UN number	1866
14.2	UN proper shipping name	Resin solution, flammable
	Technical name	
14.3	Transport hazard class(es)	3
	Subsidiary shipping hazard	
14.4	Packing group	III
14.5	Environmental hazards	
14.6	Special precautions for user	Not applicable
	EmS-No.:	F-E S-E
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Not applicable

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation for the substance or mixture:

National Regulations:

Denmark Product Registration Number:

Danish MAL Code:

Sweden Product Registration Number:

Norway Product Registration Number:

WGK Class:

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16. Other Information

Text for GHS Hazard Statements shown in Section 3 describing each ingredient

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Reasons for revision

This is a new Safety Data Sheet (SDS).

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark
 ESIS (The European Chemical Substances Information System), provided by the European Commission
 Joint Research Centre in Ispra, Italy
 Annex VI of the EU Council Directive 67/548/EEC
 Council Directive 67/548/EEC - Annex I or EU Council Directive 1999/45/EC
 European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of
 substances and mixtures (CLP Regulation)
 EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes"

Acronym & Abbreviation Key:

CLP	Classification, Labeling & Packaging Regulation
EC	European Commission
EU	European Union
US	United States
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Chemical Substances
REACH	Registration, Evaluation, Authorization of Chemicals Regulation
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
LTEL	Long term exposure limit
STEL	Short term exposure limit
OEL	Occupational exposure limit
ppm	Parts per million
mg/m ³	Milligrams per cubic meter
TLV	Threshold Limit Value
ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety & Health Administration
PEL	Permissible Exposure Limits
VOC	Volatile organic compounds
g/l	Grams per liter
mg/kg	Milligrams per kilogram
N/A	Not applicable
LD50	Lethal dose at 50%
LC50	Lethal concentration at 50%
EC50	Half maximal effective concentration
IC50	Half maximal inhibitory concentration
PBT	Persistent bioaccumulative toxic chemical
vPvB	Very persistent and very bioaccumulative
EEC	European Economic Community
ADR	International Transport of Dangerous Goods by Road
RID	International Transport of Dangerous Goods by Rail
UN	United Nations
IMDG	International Maritime Dangerous Goods Code
IATA	International Air Transport Association
MARPOL	International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978
IBC	International Bulk Container

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.

No Information

