SAFETY DATA SHEET

N-Durhance™ A 1000 CONDITIONING AGENT
™ Trademark, Ashland or its subsidiaries, registered in various countries
849858


SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Trade name : N-Durhance™ A 1000
CONDITIONING AGENT
™ Trademark, Ashland or its subsidiaries, registered in various countries

Relevant identified uses of the substance or mixture and uses advised against

Details of the supplier of the safety data sheet
Ashland
P.O. Box 2219
Columbus, OH 43216
United States of America

EHSProductSafety@ashland.com

Emergency telephone number
1-800-ASHLAND (1-800-274-5263)

Regulatory Information Number
1-800-325-3751

Product Information
614-790-3333

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

GHS label elements
This material is not considered hazardous under the OSHA Hazard Communication Standard (HazCom 2012).

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : organic

Hazardous components
No hazardous ingredients
SECTION 4. FIRST AID MEASURES

General advice : No hazards which require special first aid measures.

If inhaled : If breathed in, move person into fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.

In case of eye contact : Remove contact lenses.
Protect unharmed eye.

If swallowed : Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed : No symptoms known or expected.

Notes to physician : No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Carbon dioxide (CO2)
Dry chemical

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : No hazardous combustion products are known

Specific extinguishing methods :
SECTION 6. ACCIDENTAL RELEASE MEASURES

Product is compatible with standard fire-fighting agents.

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.

Conditions for safe storage : Protect from frost.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Materials to avoid : No materials to be especially mentioned.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters
Contains no substances with occupational exposure limit values.
SAFETY DATA SHEET

Revision Date: 11/07/2016
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Version: 1.5

Engineering measures: General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Personal protective equipment
Respiratory protection: No personal respiratory protective equipment normally required.

Eye protection: Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Skin and body protection: Wear as appropriate:
- Safety shoes
- Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures: General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: liquid
Colour: transparent
Odour: characteristic
Odour Threshold: No data available
pH: 3.5 - 4.5

Melting point/freezing point: No data available
Boiling point/boiling range: 212 °F / 100 °C
Flash point: Not applicable
Evaporation rate: No data available
### SECTION 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>No decomposition if stored and applied as directed.</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>Stable under recommended storage conditions.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Product will not undergo hazardous polymerization.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>No hazardous decomposition products are known.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical Properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>1.03 g/cm³ (25 °C)</td>
</tr>
<tr>
<td>Bulk density</td>
<td>1.03 g/cm³</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>100 - 500 mPa.s (20 °C)</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>
### SECTION 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure:**
- Inhalation
- Skin contact
- Eye Contact
- Ingestion

**Acute toxicity**
Not classified based on available information.

**Product:**
- Acute oral toxicity: Acute toxicity estimate (Rat): > 5,000 mg/kg
  Remarks: Information given is based on data obtained from similar substances.

**Skin corrosion/irritation**
Not classified based on available information.

**Product:**
- Species: Human
- Exposure time: 48 h
- Method: human patch test
- Result: No skin irritation

**Serious eye damage/eye irritation**
Not classified based on available information.

**Product:**
- Species: Chicken, egg, chorioallantoic membrane
- Result: Slight, transient irritation
- Method: Chorioallantoic membrane vascularization assay
- Remarks: Unlikely to cause eye irritation or injury.

**Respiratory or skin sensitisation**
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.

**Product:**
- Test Type: Human Repeat Insult Patch Testing (HRIPT)
- Exposure routes: Dermal
- Species: Humans
- Assessment: Does not cause skin sensitisation.

Germ cell mutagenicity
Not classified based on available information.

**Carcinogenicity**
Not classified based on available information.
Product:
Species: Rat
Application Route: Ingestion
Remarks: No significant adverse effects were reported, Information given is based on data obtained from similar substances.

Species: Dog
Application Route: Ingestion
Remarks: No significant adverse effects were reported, Information given is based on data obtained from similar substances.

Reproductive toxicity
Not classified based on available information.

Product:
Effects on fertility
Test Type: Three-generation study
Species: Rat
Application Route: Ingestion
Dose: 2000 parts per million
Remarks: No significant adverse effects were reported, Information given is based on data obtained from similar substances.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Repeated dose toxicity
Product:
Species: Rat
50000 ppmw
Application Route: Ingestion
Exposure time: 90-day
Remarks: No adverse effect has been observed in chronic toxicity tests. Information given is based on data obtained from similar substances.

Species: Dog
2000 ppmw
Application Route: Ingestion
Exposure time: 90-day
Remarks: No adverse effect has been observed in chronic toxicity tests. Information given is based on data obtained from similar substances.

Aspiration toxicity
Not classified based on available information.

Product:
No aspiration toxicity classification
Further information

Product:
Remarks: No data available

Carcinogenicity:
IARC:
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA:
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP:
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:
Toxicity to fish:
NOEC (Danio rerio (zebra fish)): < 10 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

LC50 (Danio rerio (zebra fish)): 45 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:
EC50 (Daphnia magna (Water flea)): > 128 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 202

EC50 (Daphnia magna (Water flea)): > 128 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae:
IC50 (Pseudokirchneriella subcapitata (algae)): 0.201 mg/l
End point: Growth inhibition
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (algae)): 0.122 mg/l
End point: Growth inhibition
Exposure time: 72 h
Method: OECD Test Guideline 201

Ecotoxicology Assessment
Acute aquatic toxicity : Acute aquatic toxicity Category 3; Harmful to aquatic life.
Chronic aquatic toxicity : Chronic aquatic toxicity Category 2; Toxic to aquatic life with long lasting effects.

Persistence and degradability
Product:
Biodegradability : Remarks: Not readily biodegradable.

No data available

Bioaccumulative potential
Product:
Bioaccumulation : Remarks: Accumulation in aquatic organisms is unlikely.

Mobility in soil
No data available

Other adverse effects
No data available

Product:
Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Harmful to aquatic life.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
General advice : The product should not be allowed to enter drains, water courses or the soil.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International transport regulations
REGULATION
# SAFETY DATA SHEET

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<table>
<thead>
<tr>
<th>ID NUMBER</th>
<th>PROPER SHIPPING NAME</th>
<th>*HAZARD CLASS</th>
<th>SUBSIDIARY HAZARDS</th>
<th>PACKING GROUP</th>
<th>MARINE POLLUTANT / LTD. QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MX_DG</strong></td>
<td><strong>UN 3082</strong></td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1-Propanaminium, N,N,N-trimethyl-3-[(1-oxo-2-propenyl)amino]-, chloride, homopolymer)</td>
<td>9</td>
<td>III</td>
<td></td>
</tr>
</tbody>
</table>

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**

| UN 3082 | Environmentally hazardous substance, liquid, n.o.s. (1-Propanaminium, N,N,N-trimethyl-3-[(1-oxo-2-propenyl)amino]-, chloride, homopolymer) | 9 | III |

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO**

| UN 3082 | Environmentally hazardous substance, liquid, n.o.s. (1-Propanaminium, N,N,N-trimethyl-3-[(1-oxo-2-propenyl)amino]-, chloride, homopolymer) | 9 | III |

**INTERNATIONAL MARITIME DANGEROUS GOODS**

| UN 3082 | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1-Propanaminium, N,N,N-trimethyl-3-[(1-oxo-2-propenyl)amino]-, chloride, homopolymer) | 9 | III |

**TDG_INWT_C**

Not dangerous goods
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TDG_RAIL_C
Not dangerous goods

TDG ROAD C
Not dangerous goods

U.S. DOT - INLAND WATERWAYS
Not dangerous goods

CFR_RAIL_C
Not dangerous goods

U.S. DOT - ROAD
Not dangerous goods

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant | no

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : No SARA Hazards

SARA 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Right To Know

WATER
7732-18-5
1-Propanaminium, N,N,N-trimethyl-3-[(1-oxo-2-propenyl)amino]-, chloride, homopolymer
26427-01-0

New Jersey Right To Know
SAFETY DATA SHEET

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WATER 7732-18-5
1-Propanaminium, N,N,N-trimethyl-3-[(1-oxo-2-propenyl)amino]-, chloride, homopolymer 26427-01-0

California Prop 65
WARNING! This product contains a chemical known to the State of California to cause cancer.
SULFURIC ACID 7664-93-9
LEAD 7439-92-1
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
LEAD 7439-92-1

The components of this product are reported in the following inventories:
TSCA : On TSCA Inventory
DSL : This product contains one or several components that are not on the Canadian DSL and have annual quantity limits.
AICS : Not in compliance with the inventory
ENCS : Personal care
KECI : Not in compliance with the inventory
PICCS : Not in compliance with the inventory
IECSC : On the inventory, or in compliance with the inventory

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 11/07/2016

NFPA:  
HMIS III:
NFPA Flammable and Combustible Liquids Classification
Not applicable

Full text of H-Statements

Sources of key data used to compile the Safety Data Sheet
Ashland internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Ashland’s Environmental Health and Safety Department (1-800-325-3751).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet:
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO: International Civil Aviation Organization
ICAO-TI (ICAO): Technical Instructions by the “International Civil Aviation Organization”
IMDG: International Maritime Code for Dangerous Goods
ISO: International Organization for Standardization
logPow: octanol-water partition coefficient
LCxx: Lethal Concentration, for xx percent of test population
LDxx: Lethal Dose, for xx percent of test population.
ICxx: Inhibitory Concentration for xx of a substance
Ecxx: Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD: Organization for Economic Co-operation and Development
OEL: Occupational Exposure Limit
P-Statement: Precautionary Statement
PBT: Persistent, Bioaccumulative and Toxic
PPE: Personal Protective Equipment
STEL: Short-term exposure limit
STOT: Specific Target Organ Toxicity
TLV: Threshold Limit Value
TWA: Time-weighted average
vPvB: Very Persistent and Very Bioaccumulative
WEL: Workplace Exposure Level

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
DOT: Department of Transportation
FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC: Hazardous Materials Information Review Commission
HMIS: Hazardous Materials Identification System
NFPA: National Fire Protection Association
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety and Health Administration
PMRA: Health Canada Pest Management Regulatory Agency
RTK: Right to Know
WHMIS: Workplace Hazardous Materials Information System