

**SAFETY DATA SHEET**

Revision Date: 09/07/2020

Print Date: 11/19/2020

SDS Number: R0718388

Version: 1.11

Surfadone™ LP-100 Wetting Agents
™ Trademark, Ashland or its subsidiaries, registered
in various countries
831970

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**Product identifier**

Trade name : Surfadone™ LP-100
Wetting Agents
™ Trademark, Ashland or its subsidiaries, registered in
various countries

Substance name n-(n-octyl)-2-pyrrolidinone

Substance No.

Index-No. 613-098-00-0

EC-No. 403-700-8

CAS-No. 2687-94-7

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

Recommended use : Manufacture of soaps and detergents.
Surfactant for the paint and coatings industry
Manufacture of cosmetics.
Manufacture of lubricants.
Manufacture of plastics

Manufacture of:
Adhesives
Rubber products
Metalworking Fluid
Fuel
Agrochemicals

Details of the supplier of the safety data sheet

Ashland
P.O. Box 2219
Columbus, OH 43216
United States of America (USA)
1-614-790-3333

EHSPProductSafety@ashland.com

Emergency telephone number

1-800-ASHLAND (1-800-274-5263)

Regulatory information

1-614-790-3333 (customer service)

Product Information

1-614-790-3333

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SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Skin corrosion : Category 1B

Serious eye damage : Category 1

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : Causes severe skin burns and eye damage.

Precautionary Statements : **Prevention:**
Wash skin thoroughly after handling.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
Wash contaminated clothing before reuse.

Storage:
Store locked up.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

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Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
1-OCTYL-2-PYRROLIDONE	2687-94-7	Skin Corr. 1B; H314 Eye Dam. 1; H318	100.00

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : Move to fresh air.
If breathed in, move person into fresh air.
Keep patient warm and at rest.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : If on skin, rinse well with water.
Wash contaminated clothing before re-use.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
- If swallowed : Get medical attention immediately.
Do NOT induce vomiting.
Rinse mouth with water.
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 : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Causes serious eye damage.



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Causes severe burns.

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

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : If product is heated above its flash point it will produce vapors sufficient to support combustion. Vapors are heavier than air and may travel along the ground and be ignited by heat, pilot lights, other flames and ignition sources at locations near the point of release.
 Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Carbon dioxide (CO2)
 Carbon monoxide

Specific extinguishing methods :

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 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
 Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

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- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform
respective authorities.
- Methods and materials for
containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel,
acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.
- Other information : Comply with all applicable federal, state, and local regulations.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against
fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Do not breathe vapours/dust.
Container hazardous when empty.
Avoid contact with skin and eyes.
Smoking, eating and drinking should be prohibited in the
application area.
For personal protection see section 8.
Dispose of rinse water in accordance with local and national
regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated
place.
Containers which are opened must be carefully resealed and
kept upright to prevent leakage.
Observe label precautions.
- Further information on
storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Hazardous components without workplace control parameters

Components	CAS-No.
1-OCTYL-2-PYRROLIDONE	2687-94-7



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Engineering measures : 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 : In the case of vapour formation use a respirator with an approved filter within the capabilities of the respirator/filter combination.
 Where concentrations are above recommended limits or are unknown, or a cartridge type respirator is not adequate, wear a positive-pressure supplied-air respirator.

Hand protection

Material : butyl-rubber
Break through time : 480 min
Glove thickness : > 0.5 mm

Remarks : The exact break through time can be obtained from the protective glove producer and this has to be observed. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
 The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles and face shield when there is potential for exposure of the eyes or face to liquid, vapor or mist.
 Maintain eye wash station in immediate work area.

Skin and body protection : Wear as appropriate:
 Impervious clothing
 Chemical resistant apron
 Safety shoes
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.
 Discard gloves that show tears, pinholes, or signs of wear.
 Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
 When using do not eat or drink.
 Ensure that eyewash stations and safety showers are close to the workstation location.
 When using do not smoke.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Physical state	: liquid
Colour	: clear
Odour	: slight, amine-like
Odour Threshold	: No data available
pH	: No data available
Melting point/range	: -24.0 °F / -31.1 °C Method: Regulation (EC) No. 440/2008, Annex, A.1
Boiling point/boiling range	: 558 - 581 °F / 292 - 305 °C Method: Regulation (EC) No. 440/2008, Annex, A.2
Flash point	: 142 °C Method: Regulation (EC) No. 440/2008, Annex, A.9
Evaporation rate	: not determined
Upper explosion limit	: Upper explosion limit not determined
Lower explosion limit	: Lower explosion limit not determined
Vapour pressure	: 0.08 Pa (20 °C)
Relative vapour density	: not determined
Relative density	: 0.9221 (20 °C)
Density	: 0.9219 g/cm ³ (20 °C) Method: Regulation (EC) No. 440/2008, Annex, A.3
Solubility(ies) Water solubility	: 1.14 g/l (20 °C) Method: Regulation (EC) No. 440/2008, Annex, A.6

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Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : log Pow: 4.15 (20 °C)
pH: 7
Method: Regulation (EC) No. 440/2008, Annex, A.8

Thermal decomposition : No data available

Viscosity
Viscosity, dynamic : 4.67 mPa.s (40 °C)

9.1 mPa.s (20 °C)

Viscosity, kinematic : 5.04 mm²/s (40 °C)

9.1 mm²/s (20 °C)

Oxidizing properties : Not applicable

Surface tension : 30.8 mN/m, 1 g/l, 20 °C

Molecular weight : 197.31 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Product will not undergo hazardous polymerization.

Conditions to avoid : None known.

Incompatible materials : Strong oxidizing agents

Hazardous decomposition products
Carbon monoxide
Carbon dioxide (CO₂)

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SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

Not classified based on available information.

Components:

1-OCTYL-2-PYRROLIDONE:

Acute oral toxicity : LD50 (Rat): > 2,200 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 4,000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Causes severe burns.

Product:

Remarks: Causes severe skin burns and eye damage.

Components:

1-OCTYL-2-PYRROLIDONE:

Species: Rabbit

Method: OECD Test Guideline 404

Result: Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks: May cause irreversible eye damage.

Components:

1-OCTYL-2-PYRROLIDONE:

Species: Rabbit

Result: Corrosive

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.

Respiratory sensitisation: Not classified based on available information.

Components:

1-OCTYL-2-PYRROLIDONE:

Test Type: Maximisation Test



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Species: Guinea pig

Assessment: Did not cause sensitisation on laboratory animals.

Method: OECD Test Guideline 406

Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Not classified based on available information.

Components:

1-OCTYL-2-PYRROLIDONE:

Genotoxicity in vitro

: Test Type: Ames test

Test species: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

: Test Type: Ames test

Test species: Escherichia coli

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

: Test Type: Chromosome aberration test in vitro

Test species: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

: Test Type: In vitro mammalian cell gene mutation test

Test species: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Genotoxicity in vivo

: Test Type: In vivo micronucleus test

Test species: Mouse

Cell type: Bone marrow

Method: OECD Test Guideline 474

Result: negative

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

Components:

1-OCTYL-2-PYRROLIDONE:

Effects on fertility

: Species: Rat, female

Application Route: Oral



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General Toxicity - Parent: No observed adverse effect level:
 100 mg/kg bw/day
 Method: OECD Test Guideline 415

Species: Rat, male
 Application Route: Oral
 General Toxicity - Parent: No observed adverse effect level:
 1,000 mg/kg bw/day
 Method: OECD Test Guideline 415

Species: Rat, male and female
 Application Route: Oral
 General Toxicity F1: No observed adverse effect level: 300
 mg/kg bw/day
 Fertility: No observed adverse effect level: 1,000 mg/kg
 bw/day
 Method: OECD Test Guideline 415

Effects on foetal
 development

: Species: Rat
 General Toxicity Maternal: No observed adverse effect level:
 200 mg/kg bw/day
 Teratogenicity: No observed adverse effect level: 800 mg/kg
 bw/day
 Embryo-foetal toxicity: No observed adverse effect level: 200
 mg/kg bw/day
 Method: OECD Test Guideline 414

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

1-OCTYL-2-PYRROLIDONE:

Species: Rat, male and female

NOEL: 33 - 69 mg/kg

Application Route: Oral

Exposure time: 90 day

Species: Rat, females

No observed adverse effect level: 100 mg/kg

Method: OECD Test Guideline 415

Aspiration toxicity

Not classified based on available information.

Product:

No aspiration toxicity classification

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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 on OSHA's list of regulated carcinogens.

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:**

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : Acute aquatic toxicity Category 2; Toxic to aquatic life.

Long-term (chronic) aquatic hazard : Chronic aquatic toxicity Category 3; Harmful to aquatic life with long lasting effects.

Components:

1-OCTYL-2-PYRROLIDONE:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 12.8 - 44.8 mg/l
 Exposure time: 96 h
 Test Type: static test
 Method: Directive 67/548/EEC, Annex V, C.1.

LC50 (Oncorhynchus mykiss (rainbow trout)): 17.8 mg/l
 Exposure time: 96 h
 Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 7.59 mg/l
 Exposure time: 48 h
 Test Type: flow-through test

Toxicity to algae : ErC50 (Desmodesmus subspicatus (green algae)): 19 mg/l
 End point: Growth inhibition

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Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): 3.7 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 0.91 mg/l
Exposure time: 35 d
Test Type: flow-through test
Method: OECD Test Guideline 215

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 2.5 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211

Toxicity to bacteria : EC10 (Pseudomonas putida): 170 mg/l
Exposure time: 30 min
Test Type: Static

EC50 (Pseudomonas putida): 460 mg/l
Exposure time: 30 min
Test Type: Static

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): 248 mg/kg
Exposure time: 14 d
Method: OECD Test Guideline 207

Plant toxicity : EC50 (Brassica napus): 164 mg/l
Exposure time: 14 d
Method: OECD Test Guideline 208

NOEC (Brassica napus): 62.5 mg/l
Exposure time: 14 d
Method: OECD Test Guideline 208

Toxicity to terrestrial organisms : LC50 (Colinus virginianus (Bobwhite quail)): > 5,620 ppm
Exposure time: 5 d

Persistence and degradability

Product:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 80.90 %

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Method: OECD Test Guideline 301B

Components:

1-OCTYL-2-PYRROLIDONE:

Biodegradability

: Result: Readily biodegradable.

Biodegradation: 81 %

Exposure time: 28 d

Method: OECD Test Guideline 301F

No data available

Bioaccumulative potential

Components:

1-OCTYL-2-PYRROLIDONE:

Bioaccumulation

: Bioconcentration factor (BCF): 32.92

Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

Partition coefficient: n-octanol/water

: log Pow: 4.15 (20 °C)

pH: 7

Method: Regulation (EC) No. 440/2008, Annex, A.8

No data available

Mobility in soil

Components:

1-OCTYL-2-PYRROLIDONE:

Distribution among environmental compartments

: Koc: 303

No data available

Other adverse effects

Product:

Additional ecological information

: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life., Harmful to aquatic life with long lasting effects.

Components:

1-OCTYL-2-PYRROLIDONE:

Results of PBT and vPvB assessment

: This substance is not considered to be very persistent and very bioaccumulating (vPvB). This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice

: The product should not be allowed to enter drains, water



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courses or the soil.

Do not contaminate ponds, waterways or ditches with
 chemical or used container.

Send to a licensed waste management company.

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.
 Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
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U.S. DOT - ROAD

UN 3267	Corrosive liquid, basic, organic, n.o.s. (1-OCTYL-2-PYRROLIDONE)	8		II	
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CFR_RAIL_C

UN 3267	Corrosive liquid, basic, organic, n.o.s. (1-OCTYL-2-PYRROLIDONE)	8		II	
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U.S. DOT - INLAND WATERWAYS

UN 3267	Corrosive liquid, basic, organic, n.o.s. (1-OCTYL-2-PYRROLIDONE)	8		II	
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TDG_ROAD_C

UN 3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (1-OCTYL-2-PYRROLIDONE)	8		II	
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TDG_RAIL_C

UN	3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (1-OCTYL- 2-PYRROLIDONE)	8	II
----	------	-------------------------------------------------------------------------	---	----

TDG_INWT_C

UN	3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (1-OCTYL- 2-PYRROLIDONE)	8	II
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INTERNATIONAL MARITIME DANGEROUS GOODS

UN	3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (1-OCTYL- 2-PYRROLIDONE)	8	II
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INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	3267	Corrosive liquid, basic, organic, n.o.s. (1-OCTYL-2- PYRROLIDONE)	8	II
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INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	3267	Corrosive liquid, basic, organic, n.o.s. (1-OCTYL-2- PYRROLIDONE)	8	II
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MX_DG

UN	3267	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (1-OCTYL- 2-PYRROLIDONE)	8	II
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*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant	no
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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.



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SECTION 15. REGULATORY INFORMATION

TSCA list

No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards

: Skin corrosion or irritation
 Serious eye damage or eye irritation

SARA 302

: This material does not contain any components with a section 302 EHS TPQ.

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

1-OCTYL-2-PYRROLIDONE

2687-94-7

New Jersey Right To Know

1-OCTYL-2-PYRROLIDONE

2687-94-7

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

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KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

TCSI : On the inventory, or in compliance with the inventory

TSCA : On or in compliance with the active portion of the TSCA inventory

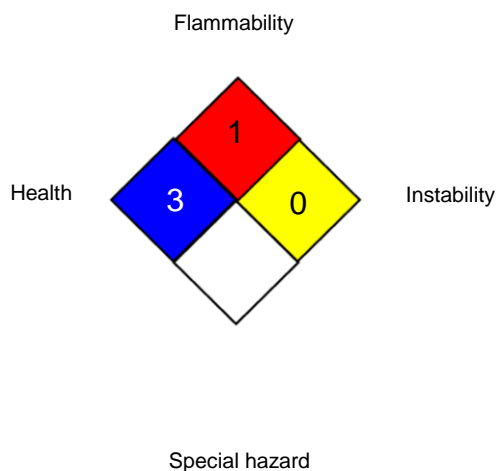
Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)
- On or in compliance with the active portion of the TSCA inventory

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	/	3
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of H-Statements

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	SDS Number: R0718388
Surfadone™ LP-100 Wetting Agents ™ Trademark, Ashland or its subsidiaries, registered in various countries 831970	Version: 1.11

H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

This sds has been prepared by Ashland. (<http://www.ashland.com>)
http://www.ashland.com/file_source/Ashland/About/Documents/R0718388_Annex_EN.pdf

Sources of key data used to compile the Safety Data Sheet : Ashland internal data including own and sponsored test reports
 European Union Law with content from the Official Journal of the European Union.
 European Chemicals Agency; the EU authority implementing



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the EU's chemicals legislation for companies.

The German Water Hazard Classes.

ReachCentrum; a series of support services to help comply with REACH regulations.

The European Commission; proposing legislation, administering and implementing EU policies, and enforcing EU law.

The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

Cefic, the European Chemical Industry Council.

ESIS European Chemical Substances Information System

Revision Date : 09/07/2020

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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