

# SAFETY DATA SHEET



## TamiSolve® NxG-PS

Version 2.0 PRD      Revision Date: 03/08/2019      SDS Number: 150000112709 SDSUS / Z8 / 0001      Date of last issue: -      Date of first issue: 03/08/2019

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### SECTION 1. IDENTIFICATION

Product name : TamiSolve® NxG-PS  
Product code : 51738-00, P5173817, P5173813, P5173814, N5173811, P5173811, P5173815, P5173810, P5173812

#### Manufacturer or supplier's details

Company name of supplier : Eastman Chemical Company  
Address : 200 South Wilcox Drive  
Kingsport TN 37660-5280  
Telephone : (423) 229-2000  
Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

#### Recommended use of the chemical and restrictions on use

Recommended use : Solvent  
Restrictions on use : None known.


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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with 29 CFR 1910.1200

Acute toxicity (Oral) : Category 4  
Skin irritation : Category 2  
Eye irritation : Category 2A

#### GHS label elements

Hazard pictograms : 

Signal Word : Warning  
Hazard Statements : H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves/ eye protection/ face protection.

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**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Pure substance

CAS-No. : Not Assigned

**Ingredients**

Chemical name	CAS-No.	Concentration (% w/w)
1-butylpyrrolidin-2-one	3470-98-2	> 99.5

**SECTION 4. FIRST AID MEASURES**

- |                         |  |
|-------------------------|--|
| General advice          | : Show this material safety data sheet to the doctor in attendance.  |
| If inhaled              | : Move to fresh air.<br>Treat symptomatically.<br>If symptoms persist, call a physician.   |
| In case of skin contact | : Wash off immediately with plenty of water for at least 15 minutes.<br>Get medical advice/ attention.<br>Wash contaminated clothing before reuse. |
| In case of eye contact  | : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.<br>Get medical advice/ attention.                       |
| If swallowed            | : Seek medical advice.   |
| Most important symptoms | : Causes skin irritation.  |

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and effects, both acute and delayed : Causes serious eye irritation.  
Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.

Notes to physician : Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : Use water spray to extinguish.  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Alcohol-resistant foam

Unsuitable extinguishing media : Do NOT use water jet.

Specific hazards during fire fighting : None known.

Hazardous combustion products : Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide

Further information : Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Wear appropriate personal protective equipment.  
Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions : Avoid release to the environment.

Methods and materials for containment and cleaning up : 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).

**SECTION 7. HANDLING AND STORAGE**

Advice on protection against fire and explosion : None known.

Advice on safe handling : Avoid contact with skin, eyes and clothing.  
Do not taste or swallow.  
Use only with adequate ventilation.  
Wash thoroughly after handling.

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Conditions for safe storage : Keep container tightly closed.

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**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Engineering measures** : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Personal protective equipment**

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : ABEK-P3-filter

Hand protection

Remarks : Solvent-resistant gloves (butyl-rubber) or Silver Shield(R) gloves The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove.

Eye protection : Wear safety glasses with side shields (or goggles).

Protective measures : Ensure that eye flushing systems and safety showers are located close to the working place.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Color : colorless

Odor : No data available

Odor Threshold : not determined

pH : 7.65  
Concentration: 10 %

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Melting point/freezing point	:	< -103 °F / < -75 °C
Boiling point/boiling range	:	466 °F / 241 °C
Flash point	:	226 °F / 108 °C
Evaporation rate	:	not determined
Upper explosion limit / Upper flammability limit	:	8.7 %(V)
Lower explosion limit / Lower flammability limit	:	0.9 %(V)
Vapor pressure	:	13 Pa (77 °F / 25 °C)
Relative vapor density	:	not determined
Relative density	:	No data available
Density	:	0.960 g/cm <sup>3</sup> (68 °F / 20 °C)
Solubility(ies) Water solubility	:	completely soluble
Partition coefficient: n-octanol/water	:	log Pow: 1.265
Autoignition temperature	:	414 °F / 212 °C
Decomposition temperature	:	Thermal stability not tested. Low stability hazard expected at normal operating temperatures.
Viscosity Viscosity, dynamic	:	4.3 mPa.s (77 °F / 25 °C)
Viscosity, kinematic	:	not determined
Explosive properties	:	No data available
Oxidizing properties	:	No data available

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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	None known.
Conditions to avoid	:	Heat, flames and sparks.

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Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Carbon dioxide (CO <sub>2</sub> ) Carbon monoxide Nitrogen oxides (NO <sub>x</sub> )

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## SECTION 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

Harmful if swallowed.

**Ingredients:****1-butylpyrrolidin-2-one:**

Acute oral toxicity	:	LD50 Oral (Rat): 300 - 2,000 mg/kg Assessment: Harmful if swallowed.
Acute inhalation toxicity	:	LC50 (Rat): > 5.1 mg/l Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 Dermal (Rat): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

**Skin corrosion/irritation**

Causes skin irritation.

**Ingredients:****1-butylpyrrolidin-2-one:**

Species	:	Rabbit
Assessment	:	Causes skin irritation.
Result	:	Skin irritation

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Ingredients:****1-butylpyrrolidin-2-one:**

Species	:	Rabbit
Result	:	Eye irritation
Assessment	:	Causes serious eye irritation.

**Respiratory or skin sensitization****Skin sensitization**

Not classified based on available information.

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**Respiratory sensitization**

Not classified based on available information.

**Ingredients:****1-butylpyrrolidin-2-one:**

Result : Did not cause sensitization on laboratory animals.

**Germ cell mutagenicity**

Not classified based on available information.

**Ingredients:****1-butylpyrrolidin-2-one:**

Germ cell mutagenicity - Assessment : Did not show mutagenic effects in animal experiments.

**Carcinogenicity**

Not classified based on available information.

**Ingredients:****1-butylpyrrolidin-2-one:**

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

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

**Reproductive toxicity**

Not classified based on available information.

**Ingredients:****1-butylpyrrolidin-2-one:**

Effects on fertility : Species: Rat  
Application Route: Oral  
Fertility: NOAEL Parent: 500 mg/kg body weight

Effects on fetal development : Species: Rat  
Application Route: inhalation (dust/mist/fume)  
Developmental Toxicity: NOAEL: 0.6 mg/l

**STOT-single exposure**

Not classified based on available information.

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**Ingredients:****1-butylpyrrolidin-2-one:**

Remarks : No data available

**STOT-repeated exposure**

Not classified based on available information.

**Ingredients:****1-butylpyrrolidin-2-one:**

Remarks : No data available

**Aspiration toxicity**

Not classified based on available information.

**Product:**

No data available

**Information on likely routes of exposure****Product:**

Inhalation	:	Remarks: None known.
Skin contact	:	Remarks: Causes skin irritation.
Eye contact	:	Remarks: Causes serious eye irritation.
Ingestion	:	Remarks: Harmful if swallowed.

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Ingredients:****1-butylpyrrolidin-2-one:**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h
		NOEC (Pimephales promelas (fathead minnow)): 82 mg/l Exposure time: 33 d
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (algae)): > 160 mg/l Exposure time: 72 h

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**Persistence and degradability****Ingredients:****1-butylpyrrolidin-2-one:**

Biodegradability : Result: Biodegradable

**Bioaccumulative potential****Ingredients:****1-butylpyrrolidin-2-one:**

Partition coefficient: n-octanol/water : log Pow: 1.265

**Mobility in soil****Ingredients:****1-butylpyrrolidin-2-one:**

Distribution among environmental compartments : Koc: 43.2

**Other adverse effects****Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.  
Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

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**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

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**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**Domestic regulation****49 CFR**

Not regulated as a dangerous good

**SECTION 15. REGULATORY INFORMATION****EPCRA - Emergency Planning and Community Right-to-Know****SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

Ingredients	CAS-No.	Component TPQ (lbs)
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**SARA 311/312 Hazards** : Acute Health Hazard

**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.

**Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

**The ingredients of this product are reported in the following inventories:**

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

AICS : Not listed

ENCS : Not listed

ISHL : Not listed

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

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

IECSC : Not listed

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

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

**TSCA list**

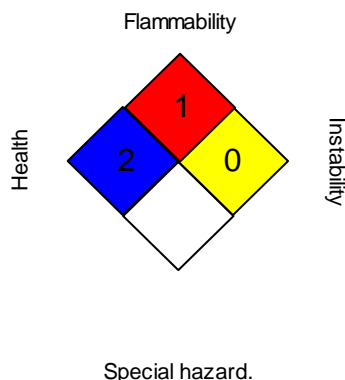
No substances are subject to a Significant New Use Rule.

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

No substances are subject to a Significant New Use Rule.

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:

1-butylpyrrolidin-2-one 3470-98-2

**SECTION 16. OTHER INFORMATION****Further information****NFPA 704:****HMIS® IV:**

<b>HEALTH</b>		<b>2</b>
<b>FLAMMABILITY</b>		<b>1</b>
<b>PHYSICAL HAZARD</b>		<b>0</b>

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 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 Chemi-

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icals 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

TSCA Consent Order: This Chemical substance is subject to a TSCA 5(e) Order effective November 2017. In accordance with the terms of the order, the following information is provided:

This substance may cause:

Skin irritation

Developmental effects (Note: Following the requirements set forth under the Globally Harmonized System of Classification and Labeling (GHS) as adopted under the US Hazard Communication Standard (29 CFR 1920.1200), this substance is not required to be classified for developmental effects)

When using this substance:

Avoid skin contact

Avoid breathing the substance

Avoid ingestion

Use skin protection

Sale or distribution for consumer uses of this substance is prohibited except in concentration not to exceed 1% in formulated products for coating and 5% for paint stripping for "consumer" use, including "commercial use" when the "saleable good or service" are both intended for "commercial use" and made available to the consumers for retail purchase of any kind.

Revision Date : 03/08/2019

The information provided in this Material 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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