

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of issue: 02/18/2019 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Natura Yellow

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Inkjet printing

1.3. Supplier

AstroNova, Inc.
600 East Greenwich Ave
West Warwick, RI 02893
TF: +1 401-828-4000
www.astronovainc.com

1.4. Emergency telephone number

Emergency number : For Hazardous Materials Incidents (spill, leak, fire, exposure, or accident) call: CHEMTREC:
U.S. 1-800-424-9300 International: +1-703-527-3887
CHEMTREC (24 HOURS)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure
Full text of hazard classes and H-statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H373 - May cause damage to organs through prolonged or repeated exposure
Precautionary statements (GHS US) : P260 - Do not breathe mist, spray.
P314 - Get medical advice/attention if you feel unwell.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

2% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
2% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	GHS US classification
Water	(CAS-No.) 7732-18-5	<80	Not classified
Ethylene glycol	(CAS-No.) 107-21-1	<9	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Glycerol	(CAS-No.) 56-81-5	2	Not classified
Ethoxylated acetylenic diols	(CAS-No.) 1606-85-5	1-5	Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319
2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate	(CAS-No.) 9014-85-1	<1	Eye Dam. 1, H318 Aquatic Chronic 3, H412

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
- First-aid measures after skin contact : Gently wash with plenty of soap and water.
- First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- First-aid measures after ingestion : If swallowed, rinse mouth with water (only if the person is conscious).

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after inhalation : None under normal use.
- Symptoms/effects after skin contact : No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin contact.
- Symptoms/effects after eye contact : No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of eye exposure.
- Symptoms/effects after ingestion : May cause damage to organs through prolonged or repeated exposure.
- Chronic symptoms : May cause damage to organs through prolonged or repeated exposure.

4.3. Immediate medical attention and special treatment, if necessary

All treatments should be based on observed signs and symptoms of distress in the patient.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : None known.

5.2. Specific hazards arising from the chemical

- Fire hazard : No particular fire or explosion hazard.
- Explosion hazard : Product is not explosive.
- Reactivity : No dangerous reactions known.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Exercise caution when fighting any chemical fire. Use extinguishing media appropriate for surrounding fire.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear fire/flammable resistant/retardant clothing. Wear a self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Stop leak, if possible without risk. Take up small spills with dry chemical absorbent.

6.1.2. For emergency responders

- Emergency procedures : Stop leak if safe to do so. Take up small spills with dry chemical absorbent.

6.2. Environmental precautions

Do not discharge into drains or the environment.

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6.3. Methods and material for containment and cleaning up

For containment : Absorb and/or contain spill with inert material, then place in suitable container.
Methods for cleaning up : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

6.4. Reference to other sections

Section 7: safe handling. Section 8: personal protective equipment. Section 13: disposal information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Glycerol (56-81-5)		
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total) 5 mg/m ³ (respirable fraction)
Ethoxylated acetylenic diols (1606-85-5)		
Not applicable		
2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)		
Not applicable		
Water (7732-18-5)		
Not applicable		
Ethylene glycol (107-21-1)		
ACGIH	Local name	Ethylene glycol
ACGIH	ACGIH TWA (ppm)	25 ppm
ACGIH	ACGIH STEL (mg/m ³)	10 mg/m ³
ACGIH	ACGIH STEL (ppm)	50 ppm
ACGIH	ACGIH Ceiling (mg/m ³)	100 mg/m ³
ACGIH	ACGIH Ceiling (ppm)	39.4 ppm
ACGIH	Remark (ACGIH)	Kidney dam; URT & eye irr

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Impermeable protective nitrile gloves

Eye protection:

None under normal use

Respiratory protection:

None under normal use

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Yellow liquid.
Color	: Yellow
Odor	: odorless
Odor threshold	: No data available
pH	: 7.1
Melting point	: No data available
Freezing point	: No data available
Boiling point	: > 93.3 °C
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: > 1 (Air = 1)
Relative density	: No data available
Solubility	: Miscible with water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: Product is not explosive.
Oxidizing properties	: None known.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None under normal use.

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met)

Glycerol (56-81-5)	
LD50 oral rat	5570 mg/kg
ATE US (oral)	5570 mg/kg body weight
Ethoxylated acetylenic diols (1606-85-5)	
LD50 oral rat	1230 mg/kg (Based on similar product)

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Ethoxylated acetylenic diols (1606-85-5)	
ATE US (oral)	1230 mg/kg body weight
2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 2 mg/l/4h
Ethylene glycol (107-21-1)	
LD50 dermal rat	> 3500 mg/kg mouse
LC50 inhalation rat (mg/l)	> 2.5 mg/l/4h
ATE US (oral)	500 mg/kg body weight

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitization	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity – single exposure	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity – repeated exposure	: May cause damage to organs through prolonged or repeated exposure. (Based on available data, the classification criteria are not met)

2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)	
NOAEL (subacute,oral,animal/male,28 days)	200 mg/kg body weight
Ethylene glycol (107-21-1)	
LOAEL (oral,rat,90 days)	1000 mg/kg bodyweight/day
NOAEL (oral,rat,90 days)	150 mg/kg bodyweight/day kidney

Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Likely routes of exposure	: dermal.
Symptoms/effects after inhalation	: None under normal use.
Symptoms/effects after skin contact	: No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin contact.
Symptoms/effects after eye contact	: No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of eye exposure.
Symptoms/effects after ingestion	: May cause damage to organs through prolonged or repeated exposure.
Chronic symptoms	: May cause damage to organs through prolonged or repeated exposure.

SECTION 12: Ecological information

12.1. Toxicity

Glycerol (56-81-5)	
LC50 fish 1	68 - 72 mg/l
2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)	
LC50 fish 1	52.5 mg/l juvenile <i>S. maximus</i>
EC50 Daphnia 1	166 mg/l
ErC50 (algae)	15 mg/l
NOEC chronic algae	1 mg/l
Ethylene glycol (107-21-1)	
LC50 fish 1	72860 mg/l <i>Pimephales promelas</i>
EC50 Daphnia 1	> 100 mg/l
NOEC chronic fish	15380 mg/l <i>Pimephales promelas</i>
NOEC chronic crustacea	8590 mg/l <i>Ceriodaphnia sp.</i>

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12.2. Persistence and degradability

Natura Yellow	
Persistence and degradability	Not established.
Glycerol (56-81-5)	
Persistence and degradability	Readily biodegradable.
2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)	
Persistence and degradability	Not readily biodegradable.
Ethylene glycol (107-21-1)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

Natura Yellow	
Bioaccumulative potential	Not established.
2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)	
Bioconcentration factor (BCF REACH)	< 24
Bioaccumulative potential	Not expected to bioaccumulate.
Ethylene glycol (107-21-1)	
Log Pow	- 1.36
Bioaccumulative potential	Not expected to bioaccumulate.

12.4. Mobility in soil

Natura Yellow	
Ecology - soil	No additional information available.

12.5. Other adverse effects

Other adverse effects : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Do not remove as household garbage. Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

Transportation of Dangerous Goods

Not applicable

Transport by sea

Not regulated.

Air transport

Not regulated.

SECTION 15: Regulatory information

15.1. US Federal regulations

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Ethylene glycol	CAS-No. 107-21-1	8%
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Glycerol (56-81-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Ethoxylated acetylenic diols (1606-85-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711).
Ethylene glycol (107-21-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
CERCLA RQ	5000 lb

15.2. International regulations

CANADA

Glycerol (56-81-5)	
Listed on the Canadian DSL (Domestic Substances List)	
Ethoxylated acetylenic diols (1606-85-5)	
Listed on the Canadian DSL (Domestic Substances List)	
2,4,7,9-Tetramethyl-5-decyne-4,7-diol ethoxylate (9014-85-1)	
Listed on the Canadian DSL (Domestic Substances List)	
Ethylene glycol (107-21-1)	
Listed on the Canadian DSL (Domestic Substances List)	

EU-Regulations

Glycerol (56-81-5)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	
Ethylene glycol (107-21-1)	
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)	

National regulations

Glycerol (56-81-5)	
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on KECI (Korean Existing Chemicals Inventory) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on Taiwan National Chemical Inventory Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the AICS (Australian Inventory of Chemical Substances) Listed on NZIoC (New Zealand Inventory of Chemicals)	
Ethylene glycol (107-21-1)	
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the AICS (Australian Inventory of Chemical Substances) Listed on Taiwan National Chemical Inventory Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on KECI (Korean Existing Chemicals Inventory) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)	

15.3. US State regulations



WARNING

This product can expose you to ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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Ethylene glycol (107-21-1)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
No	Yes	No	No		8700 µg/day (oral)
U.S. - California - Proposition 65 - Other information		Ingestion			

Glycerol (56-81-5)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

Ethylene glycol (107-21-1)
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Data sources : Chemical Book; Accessed at http://www.chemicalbook.com/ChemicalProductProperty_EN_CB1712971.htm.
European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>.
European Chemicals Agency (ECHA) Registered Substances list. Accessed at <http://echa.europa.eu/>.
European Standards: Personal Protective Equipment; accessed at: http://ec.europa.eu/enterprise/policies/european-standards/harmonised-standards/personal-protective-equipment/index_en.htm.
Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition.
OSHA 29CFR 1910.1200 Hazard Communication Standard.
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
US National Library of Medicine National Institutes of Health Haz-Map. Accessed at <http://hazmap.nlm.nih.gov>.
TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>.

Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

Full text of H-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H302	Harmful if swallowed
H318	Causes serious eye damage
H319	Causes serious eye irritation
H373	May cause damage to organs through prolonged or repeated exposure
H412	Harmful to aquatic life with long lasting effects

Natura Yellow

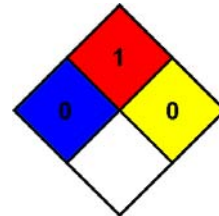
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Abbreviations and acronyms:

ACGIH (American Conference of Government Industrial Hygienists)
ATE: Acute Toxicity Estimate
CAS (Chemical Abstracts Service) number
CLP: Classification, Labelling, Packaging.
DNEL: Derived No Effect Level
EC50: Environmental Concentration associated with a response by 50% of the test population.
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals
IPPC: Integrated Pollution Prevention and Control
LD50: Lethal Dose for 50% of the test population
NOEC: No Observable Effect Concentration
OSHA: Occupational Safety & Health Administration
PBT: Persistent, Bioaccumulative, Toxic
PNEC: Predicted No Effect Level
STEL: Short Term Exposure Limits
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average

- NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.
- NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product