

SECTION 1: Identification**1.1. Identification**

Product form : Mixture
Product name : EX-2C CLEAR 221
Product code : FUA0221

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

No additional information available

1.3. Details of the supplier of the safety data sheet

Endura Manufacturing Company Ltd.
12425 149 Street NW
Edmonton, T5L 2J6 - Canada
T 1-780-451-4242 - F 1-780-452-5079
info@endura.ca - www.endura.ca

1.4. Emergency telephone number

Emergency number : In the event of an emergency involving dangerous goods:
in Canada call CANUTEC at 613-996-6666 or *666 on a cellular phone.
in the US call CHEMTREC at 800-424-9300 (Account Name for US is Polyglass Coatings)

SECTION 2: Hazard(s) identification**2.1. Classification of the substance or mixture****GHS-US classification**

Flam. Liq. 2 H225 - Highly flammable liquid and vapor
STOT SE 3 H336 - May cause drowsiness or dizziness

Full text of H statements : see section 16

2.2. Label elements**GHS-US labeling**

Hazard pictograms (GHS-US) :



GHS02

GHS07

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapor
H336 - May cause drowsiness or dizziness

Precautionary statements (GHS-US) : P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P233 - Keep container tightly closed
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P312 - Call a poison center or a doctor if you feel unwell
P370+P378 - In case of fire: Use dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2) to extinguish
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container in accordance with all local, regional, national and international regulations.

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2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
n-butyl acetate	(CAS-No.) 123-86-4	40 - 50	Flam. Liq. 3, H226 STOT SE 3, H336
heptan-2-one	(CAS-No.) 110-43-0	10 - 20	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:vapour), H332

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off all contaminated clothing immediately.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : May cause drowsiness or dizziness.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapor.
Reactivity : Highly flammable liquid and vapor.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. NO open flames, NO sparks, and NO smoking. Avoid breathing dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8 Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information : Dispose of materials or solid residues at an authorized site.

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6.4. Reference to other sections

For further information refer to section 8 : Exposure-controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Ground/bond container and receiving equipment.
- Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

n-butyl acetate (123-86-4)		
ACGIH	ACGIH TWA (ppm)	150 ppm (n-Butyl acetate; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	ACGIH STEL (ppm)	200 ppm (n-Butyl acetate; USA; Short time value; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	Eye & URT irr
OSHA	OSHA PEL (TWA) (mg/m ³)	710 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	150 ppm

heptan-2-one (110-43-0)		
ACGIH	ACGIH TWA (ppm)	50 ppm (Methyl n-amyl ketone; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
ACGIH	Remark (ACGIH)	Eye & skin irr
OSHA	OSHA PEL (TWA) (mg/m ³)	465 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	100 ppm

8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Hand protection : Protective gloves.
- Eye protection : Safety glasses.
- Skin and body protection : Wear suitable protective clothing.
- Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
- Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Color : Mixture contains one or more component(s) which have the following colour(s): Colourless Colourless to light yellow Light yellow
- Odor : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.
Mixture contains one or more component(s) which have the following odour(s): Fruity odour Pleasant odour Aromatic odour Characteristic odour Petroleum-like odour Mild odour Ether-like odour Sweet odour Irritating/pungent odour
- Odor threshold : No data available
- pH : No data available
- Melting point : Not applicable

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Freezing point	: No data available
Boiling point	: 77 °C 170.6 °F
Flash point	: -4 °C 24.8 °F
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: 1 - 10.7 vol %
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: 0.9432 g/ml
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: 407.2 °C 764.9 °F
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

VOC content (Regulatory - Less water and exempt solvents)	: 662.99 g/l 5.53 lb/gal
VOC content (Material - Actual)	: 662.99 g/l 5.53 lb/gal
Percent Solids (Weight)	: 29.71 % (wt%)
Percent Solids (Volume)	: 24.14 %
Percent Volatile (Weight)	: 70.29 %
Percent Volatile (Volume)	: 75.86 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapor.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, No sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

n-butyl acetate (123-86-4)

LD50 oral rat	10760 - 12789 mg/kg body weight (Rat; Equivalent or similar to OECD 423; Experimental value)
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n-butyl acetate (123-86-4)	
LD50 dermal rabbit	14112 mg/kg body weight (Rabbit; Experimental value; Equivalent or similar to OECD 402)
ATE US (oral)	10760 mg/kg body weight
ATE US (dermal)	14112 mg/kg body weight

heptan-2-one (110-43-0)	
LD50 oral rat	1670 mg/kg (Rat; Experimental value; 1600 mg/kg bodyweight; Rat)
LD50 dermal rat	10300 mg/kg (Rat; Experimental value; OECD 402: Acute Dermal Toxicity; >2000 mg/kg bodyweight; Rat)
LC50 inhalation rat (mg/l)	14 mg/l/4h (Rat; Experimental value; >16.7 mg/l/4h; Rat)
ATE US (oral)	1670 mg/kg body weight
ATE US (dermal)	10300 mg/kg body weight
ATE US (vapors)	14 mg/l/4h
ATE US (dust, mist)	14 mg/l/4h

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: May cause drowsiness or dizziness.
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
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n-butyl acetate (123-86-4)	
LC50 fish 1	18 mg/l (LC50; Equivalent or similar to OECD 203; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	44 mg/l (EC50; Other; 48 h; Daphnia sp.; Static system; Fresh water; Experimental value)
Threshold limit algae 1	674.7 mg/l (EC50; Other; 72 h; Desmodesmus subspicatus; Static system; Fresh water; Experimental value)
Threshold limit algae 2	200 mg/l (NOEC; Other; 72 h; Desmodesmus subspicatus; Static system; Fresh water; Experimental value)

heptan-2-one (110-43-0)	
LC50 fish 1	131 mg/l (LC50; EPA OPP 72-1; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 2	> 90.1 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Semi-static system; Fresh water; Experimental value)
Threshold limit algae 2	98.2 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)

12.2. Persistence and degradability

n-butyl acetate (123-86-4)	
Persistence and degradability	Readily biodegradable in water. Low potential for adsorption in soil. Photolysis in the air.
ThOD	2.21 g O ₂ /g substance
BOD (% of ThOD)	0.46

heptan-2-one (110-43-0)	
Persistence and degradability	Readily biodegradable in water. Highly mobile in soil.
BOD (% of ThOD)	0.44

12.3. Bioaccumulative potential

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n-butyl acetate (123-86-4)	
BCF fish 1	15.3 (BCF)
Log Pow	2.3 (Test data; OECD 117: Partition Coefficient (n-octanol/water), HPLC method; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
heptan-2-one (110-43-0)	
Log Pow	2.26 (Experimental value; EU Method A.8: Partition Coefficient; 30 °C; 2.26; Experimental value; EU Method A.8: Partition Coefficient; 30 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

n-butyl acetate (123-86-4)	
Surface tension	0.0163 N/m (20 °C)
Log Koc	log Koc, SRC PCKOCWIN v2.0; 1.268/1.844; QSAR
heptan-2-one (110-43-0)	
Surface tension	0.0591 N/m (21.6 °C)
Log Koc	log Koc, EU Method C.19; 1.45; Experimental value

12.5. Other adverse effects

Effect on the global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1263 Paint (including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler, and liquid lacquer base), 3, II

UN-No.(DOT) : UN1263

Proper Shipping Name (DOT) : Paint
including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler, and liquid lacquer base

Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : II - Medium Danger

DOT Packaging Non Bulk (49 CFR 173.xxx) : 173

DOT Packaging Bulk (49 CFR 173.xxx) : 242

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- DOT Special Provisions (49 CFR 172.102) : 149 - When transported as a limited quantity or a consumer commodity, the maximum net capacity specified in 173.150(b)(2) of this subchapter for inner packaging may be increased to 5 L (1.3 gallons).
B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum filling bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F).
TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 150
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L
- DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
- Other information : No supplementary information available.

Transportation of Dangerous Goods

- Transport document description : UN1263 PAINT (PAINT), 3, II
- UN-No. (TDG) : UN1263
- Proper Shipping Name (Transportation of Dangerous Goods) : PAINT
- TDG Primary Hazard Classes : 3 - Class 3 - Flammable Liquids
- Packing group : II - Medium Danger
- TDG Special Provisions : 59 - Substances that are listed by name in Schedule 1 must not be transported under this shipping name. Substances transported under this shipping name may contain not more than 20 per cent nitrocellulose if the nitrocellulose contains not more than 12.6 per cent nitrogen (by dry mass), 83 - Repealed SOR/2014-152
- Explosive Limit and Limited Quantity Index : 5
- Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 5

Transport by sea

- UN-No. (IMDG) : 1263
- Class (IMDG) : 3 - Flammable liquids
- Packing group (IMDG) : II - substances presenting medium danger

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

xylene, mixture of isomers	CAS-No. 1330-20-7	0.135%
n-butyl acetate (123-86-4)		
Not listed on SARA Section 313 (Specific toxic chemical listings)		
CERCLA RQ	5000 lb	

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15.2. International regulations

CANADA

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Listed on the Canadian DSL (Domestic Substances List) inventory.

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

n-butyl acetate (123-86-4)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

heptan-2-one (110-43-0)

U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Revision date : 06/07/2018

Full text of H-phrases:

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H302	Harmful if swallowed
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness

SDS US Endura

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