

Date: April 15, 2011

### EX-2C Low VOC Component B change

Please note that EX-2C Component B Low VOC was modified to further reduce the VOC levels for both automotive refinishing in Canada and VOC topcoat regulations in the US; as well as to allow for the use of additional reducers to improve the paint's finish.

Any EX-2C Component B Low VOC with a batch number **before B068434**, will be the old formula, with a VOC content of 284 g/L (2.3 lbs/gal)

Any EX-2C Component B Low VOC with a batch **after B068434**, will be the new formula with a VOC content of 131.5 g/L (1.09 lbs/gal)

Attached are both copies of the MSDS information

**Part Number:** EX-2C Component B Low VOC [FUB0112]

**Website status:**

Product information is available on our website at:

<http://www.endura.ca/msds/ex2clowvoccomponentb.pdf>

**VOC:** All mixed EX-2C Low VOC colours are < 420 grams/liter (3.5 lbs/gallon) when mixed 1:1 by volume with EX-2C Low VOC Component B [FUB0112]

If you have any questions please contact me,

Elissa

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**Elissa Milner**  
Marketing Director

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**ENDURA**  
**PAINT**  
Paint that **OUTLASTS & OUTPERFORMS.**

**MATERIAL SAFETY DATA SHEET**

Product Name: EX-2C Low VOC B (For Batches after B068434)  
Component B  
Formulated to meet or exceed the Canadian Automotive refinishing VOC Guidelines for topcoats.



**SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Manufacturer/Supplier:..... Endura Manufacturing Co. Ltd.  
12425 - 149 Street  
Edmonton, Alberta  
T5L 2J6  
Ph: (780) 451-4242 Fax: (780) 452-5079

24-Hour Emergency Number:..... (613) 996-6666 (Canutec)

Product Name:..... EX-2C LOW VOC COMPONENT B

Item Number:..... FUB0112

Chemical Family:..... Ester, Ketone, HDI

Material Use:..... 2 component coating – mix 1 part Component "A" and 1 part Component "B" by volume

**SECTION 02: COMPOSITION / INFORMATION ON INGREDIENTS**

HAZARDOUS INGREDIENTS	C.A.S.	LD/50, ROUTE, SPECIES	LC/50, ROUTE, SPECIES	TLV	% WT
Homopolymer of Hexamethylene Diisocyanate	28182-81-2	5 g/kg, oral rat	390 – 453 mg/m3, 4h inhalation rat	0.5 mg/m3	30 – 50
Tert-Butyl Acetate	540-88-5	4.1 g/kg, oral rat 2 g/kg, dermal rabbit	2230 mg/m3, 4h inhalation rat	200 ppm	30– 50
Acetone	67-64-1	5.8 g/kg, oral rat 20 g/kg, dermal rabbit	16,000 ppm, 4h inhalation rat	1,000 ppm	10 – 20
Propylene Carbonate	108-32-7	>5 g/kg, oral rat >2 g/kg, dermal rat	N/A	N/A	1 – 5
N-Butyl Acetate	123-86-5	10.8 g/kg, oral rat 17.6 g/kg, dermal rabbit	160 mg/L, 4h inhalation rat	200 ppm	1 – 3
*Hexamethylene-1,6-Diisocyanate	822-06-0	0.75 g/kg, oral rat	130 – 350 mg/m3, 4h inhalation rat	0.005 ppm	0.1 – 0.3

\*\* Free HDI monomer <0.15% of mixed solution (comp. A & comp. B) at time of manufacture. The monomer content may rise to 0.35% after 3-6 months storage.

legend: o=oral d=dermal i=inhalation rbt=rabbit r=rat fr=female rat g=guinea pig

See Sax, N.I. "Dangerous Properties of Industrial Materials" for more information.

**SECTION 03: HAZARDS IDENTIFICATION**

Eye Contact:..... Moderately irritating to eyes and can cause tissue damage.

Skin Contact:..... Low toxicity by skin absorption, but extended contact can cause irritation and dermatitis. Skin sensitization or reddening, swelling or blistering can occur.

Inhalation:..... Vapors are of low to moderate toxicity when inhaled and are irritating to nose, throat and other respiratory passages, especially in higher concentrations. Extended exposure can cause headaches, dizziness, nausea or even loss of muscular control and coordination, narcosis or unconsciousness. In addition to causing lung irritation, coughing, breathlessness and chest discomfort, isocyanates can cause a reduction in lung function or even bronchitis, bronchial spasm or pulmonary edema in extreme concentrations. Any of these effects can be immediate or delayed. Any pre-existing impairment in lung function will be magnified or sensitization of the lungs can occur, and those in either condition should not be exposed to any level of isocyanate vapor.

Ingestion:..... Liquid is of low to moderate toxicity when ingested, but can be hazardous if aspirated into lungs during swallowing or vomiting.

Additional Information:..... Chronic hazards include narcosis, specific organ damage, permanent brain and nervous system damage or coma if extensively abused. Component B (and therefore the mixture) contains an isocyanate compound, which carries additional hazards. The vapor's odor is not detectable until dangerous levels have already been reached.

**MATERIAL SAFETY DATA SHEET**

Product Name:

EX-2C Low VOC B (For Batches after B068434)  
Component B

Formulated to meet or exceed the Canadian Automotive refinishing VOC Guidelines for topcoats.



**SECTION 04: FIRST AID MEASURES**

Inhalation (acute):.....	Remove to fresh air and if necessary restore breathing by giving artificial respiration. Administer oxygen if victim is breathing with difficulty. GET IMMEDIATE MEDICAL HELP.
Ingestion:.....	DO NOT INDUCE VOMITING. Seek medical help. Give 1 or 2 glasses water or milk, BUT ONLY IF VICTIM IS CONSCIOUS.
Eye Contact:.....	Check for and remove any contact lenses. Flush eyes IMMEDIATELY with water for 15 minutes and get immediate medical help.
Skin Contact:.....	Wash with soap and water. Clean contaminated clothing before reuse.
Notes to Physician:.....	Treatment is symptomatic. There is no specific antidote. See list of ingredients.

**SECTION 05: FIRE FIGHTING MEASURES**

Flash Point (°C) (TCC):.....	-20 °C
Auto Ignition Temperature (°C):.....	N/A
Upper Explosive Limit (% Vol):.....	N/A
Lower Explosive Limit (% Vol):.....	N/A
Extinguishing Media:.....	CO <sub>2</sub> , dry chemical, foam. Avoid using water except as a fog.
Hazardous Combustion Products:.....	CO, CO <sub>2</sub> . Oxides of Nitrogen. Hydrogen Cyanide. HDI
Sensitivity To Mechanical Impact:.....	None
Sensitivity To Static Discharge:.....	Can ignite vapors
Special Fire Fighting Procedures:.....	Wear self-contained breathing apparatus and full protective clothing. Extreme heat may cause pressure build-up in containers and possibly explosion, therefore use water to keep containers cool.
Conditions of Flammability:.....	Sparks, open flame, static discharge or extreme temperature.

**SECTION 06: ACCIDENTAL RELEASE MEASURES**

Leak / Spill:.....	Remove all sources of ignition. The product should be contained and absorbed with inert materials and placed into a container. Do not seal the containers until any gas, which might form, has done so.
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**SECTION 07: HANDLING AND STORAGE**

Handling Procedures:.....	Avoid static charges, sparks, flames and excessive heat. Keep containers tightly closed and upright when not in use. Do not allow contact with skin or eyes, and don't breathe vapors.
Storage Needs:.....	Store in a cool, dry place.

**SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION**

*PROTECTIVE EQUIPMENT*

Eye/Type:.....	Wear liquid chemical goggles or a full-face shield.
Respiratory/Type:.....	Wear a suitable air supplied respirator.
Gloves/Clothing/Footwear/Type:.....	Wear chemical-resistant clothing, gloves and footwear.
Other/Type:.....	Make a safety shower and eye wash facility available.
Ventilation Requirements:.....	Adequate ventilation must be assured to prevent the accumulation of dangerous amounts of vapor or mist.

**MATERIAL SAFETY DATA SHEET**

Product Name:

EX-2C Low VOC B (For Batches after B068434)

Component B

Formulated to meet or exceed the Canadian Automotive refinishing VOC Guidelines for topcoats.

**SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

Physical State (appearance):.....	Clear, slightly yellow liquid
Odor:.....	Solvent like
Density (g/ml):.....	0.9666
Odor Threshold (ppm):.....	N/A
Vapor Pressure (20°C):.....	180 mm Hg
Vapor Density (Air=1):.....	Heavier than air
Evaporation Rate:.....	Slower than ether
Boiling Point (°C):.....	57
pH:.....	N/A
Solubility in Water (% W/W):.....	N/A
Coefficient of Water/Oil Distribution:.....	N/A
Freezing Point (°C):.....	N/A
VOC (less water & exempts): .....	131.5 g/l      1.09 lbs/gal

**SECTION 10: STABILITY AND REACTIVITY**

Incompatibility:.....  
Reactivity Conditions:.....      Reacts with water, alcohols, amines, and strong bases to give a variety of products, some gaseous. Both components and their mixture will react dangerously with oxidizing materials. If component B or the mixture comes into contact with any of the above materials, a potentially explosive mixture can form. Therefore, contaminated solutions must never be resealed in the can.

Hazardous Products of Decomposition:.....

**SECTION 11: REGULATORY INFORMATION**

WHMIS:.....      B2, D2A

**SECTION 12: DISPOSAL CONSIDERATIONS**

Waste Disposal:.....      Dispose of waste according to local, provincial and federal regulations. Utilize authorized centers for disposal of combustible chemical material.

**SECTION 13: TRANSPORT INFORMATION**


T.D.G. Classification:.....      Shipping name: Paint. UN 1263, CI 3, PG II.

**SECTION 14: OTHER INFORMATION**

Note:.....  
Prepared By:.....      Endura - Information Systems  
Revision Date:.....      April 15, 2011

**MATERIAL SAFETY DATA SHEET**

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Ph: (780) 451-4242 Fax: (780) 452-5079

24-Hour Emergency Number:..... (613) 996-6666 (Canutec)

Product Name:..... EX-2C LOW VOC COMPONENT B

Item Number:..... UN 1263 CI 3 PG II

Chemical Family:..... Ester, Ketone, HDI

Material Use:..... 2 component plastic coating – mix 1 part Component "A" and 1 part Component "B" by volume

**SECTION 02: COMPOSITION / INFORMATION ON INGREDIENTS**

HAZARDOUS INGREDIENTS	C.A.S.	LD/50, ROUTE, SPECIES	LC/50, ROUTE, SPECIES	TLV	% WT
ethyl 3-ethoxypropionate	763-69-9	5 g/kg o-r 10 ml/kg d-rbt	>1000 ppm/6h i-r	N/A	10-30
acetone	67-64-1	>9.7 g/kg o-r >20 ml/kg d-rbt	>16000 ppm/4h i-r	500 ppm	30-50
hexamethylene diisocyanate	822-06-0	710 mg/kg o-r 570 mg/kg d-rbt	310-350 mg/m <sup>3</sup> /1-4 h i-r	.005 ppm	**
homopolymer of HDI	28182-81-2	>10 g/kg o-r		N/A	30-50
Ethylene Glycol Monobutyl Acetate	112-07-2	2400mg/kg -r	450ppm/4hr -r	20 ppm	0-5%
TWA 20 ppm					
STEL 75 ppm					

\*\* Free HDI monomer <0.15% of mixed solution (comp. A & comp. B) at time of manufacture. The monomer content may rise to 0.35% after 3-6 months storage.

legend: o=oral d=dermal i=inhalation rbt=rabbit r=rat fr=female rat g=guinea pig

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**MATERIAL SAFETY DATA SHEET**

Product Name:	EX-2C Low VOC (For Batches before B068434) Component B <b>Formulated to meet or exceed the Canadian Automotive refinishing VOC Guidelines for topcoats.</b>	
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**SECTION 04: FIRST AID MEASURES**

Inhalation (acute):.....	Remove to fresh air and if necessary restore breathing by giving artificial respiration. Administer oxygen if victim is breathing with difficulty. GET IMMEDIATE MEDICAL HELP.
Ingestion:.....	DO NOT INDUCE VOMITING. Seek medical help. Give 1 or 2 glasses water or milk, BUT ONLY IF VICTIM IS CONSCIOUS.
Eye Contact:.....	Check for and remove any contact lenses. Flush eyes IMMEDIATELY with water for 15 minutes and get immediate medical help.
Skin Contact:.....	Wash with soap and water. Clean contaminated clothing before reuse.
Notes to Physician:.....	Treatment is symptomatic. There is no specific antidote. See list of ingredients.

**SECTION 05: FIRE FIGHTING MEASURES**

Flash Point (°C) (TCC):.....	-20 °C
Auto Ignition Temperature (°C):.....	N/A
Upper Explosive Limit (% Vol):.....	N/A
Lower Explosive Limit (% Vol):.....	N/A
Extinguishing Media:.....	CO <sub>2</sub> , dry chemical, foam. Avoid using water except as a fog.
Hazardous Combustion Products:.....	CO, CO <sub>2</sub> . Oxides of Nitrogen. Hydrogen Cyanide. HDI
Sensitivity To Mechanical Impact:.....	None
Sensitivity To Static Discharge:.....	Can ignite vapors
Special Fire Fighting Procedures:.....	Wear self-contained breathing apparatus and full protective clothing. Extreme heat may cause pressure build-up in containers and possibly explosion, therefore use water to keep containers cool.
Conditions of Flammability:.....	Sparks, open flame, static discharge or extreme temperature.

**SECTION 06: ACCIDENTAL RELEASE MEASURES**

Leak / Spill:.....	Remove all sources of ignition. The product should be contained and absorbed with inert materials and placed into a container. Do not seal the containers until any gas, which might form, has done so.
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**SECTION 07: HANDLING AND STORAGE**


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Storage Needs:.....	Store in a cool, dry place.

**SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION**

*PROTECTIVE EQUIPMENT*

Eye/Type:.....	Wear liquid chemical goggles or a full-face shield.
Respiratory/Type:.....	Wear a suitable air supplied respirator.
Gloves/Clothing/Footwear/Type:.....	Wear chemical-resistant clothing, gloves and footwear.
Other/Type:.....	Make a safety shower and eye wash facility available.
Ventilation Requirements:.....	Adequate ventilation must be assured to prevent the accumulation of dangerous amounts of vapor or mist.

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**SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES**

Physical State (appearance):.....	Clear, slightly yellow liquid
Odor:.....	Solvent like
Density (g/ml):.....	0.9426
Odor Threshold (ppm):.....	N/A
Vapor Pressure (20°C):.....	180 mm Hg
Vapor Density (Air=1):.....	Heavier than air
Evaporation Rate:.....	5.7
Boiling Point (°C):.....	57
pH:.....	N/A
Solubility in Water (% W/W):.....	N/A
Coefficient of Water/Oil Distribution:.....	N/A
Freezing Point (°C):.....	N/A
VOC (less water & exempts): .....	281 g/l      2.3 lbs/gal

**SECTION 10: STABILITY AND REACTIVITY**

Incompatibility:.....	
Reactivity Conditions:.....	Reacts with water, alcohols, amines, and strong bases to give a variety of products, some gaseous. Both components and their mixture will react dangerously with oxidizing materials. If component B or the mixture comes into contact with any of the above materials, a potentially explosive mixture can form. Therefore, contaminated solutions must never be resealed in the can.
Hazardous Products of Decomposition:.....	

**SECTION 11: REGULATORY INFORMATION**

WHMIS:.....	B2, D2A
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**SECTION 12: DISPOSAL CONSIDERATIONS**

Waste Disposal:.....	Dispose of waste according to local, provincial and federal regulations. Utilize authorized centers for disposal of combustible chemical material.
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**SECTION 13: TRANSPORT INFORMATION**

T.D.G. Classification:.....	Shipping name: Paint. UN 1263, CI 3, PG II.
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**SECTION 14: OTHER INFORMATION**

Note:.....	
Prepared By:.....	Endura - Information Systems
Revision Date:.....	December 21, 2010