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Section 1. Identification of the substance/mixture and of the company/undertaking

| 1.1. Product identifier | |
|---|---|
| Product Identity | F-123 Marking Fluid White, Green, Orange, Yellow, Pink, Purple |
| Alternate Names | F-123 Marking Fluid White, Green, Orange, Yellow, Pink, Purple |
| 1.2. Relevant identified uses of the substance or mi | xture and uses advised against |
| Intended use | See Technical Data Sheet. |
| Application Method | See Technical Data Sheet. |
| 1.3. Details of the supplier of the safety data sheet | |
| Company Name | Carco, Inc 10333 Shoemaker |
| | P.O. Box 13859 |
| | Detroit, Michigan, USA 48213 |
| Emergency | |
| 24 hour Emergency Telephone No. | ChemTel 1-800-255-3924 (MIS0001475) International +01-813-248-0585 |
| Customer Service: Carco, Inc | Phone +1 (313) 925-9000 Fax +1 (313) 925-9602 Email: sales@carcousa.net |

2. Hazard identification of the product

2.1. Classification of the substance or mixture

| Flam. Liq. 2;H225 | Highly Flammable liquid and vapor. |
|------------------------|--|
| Eye Irrit. 2;H319 | Causes serious eye irritation. |
| STOT SE 3;H336 | May cause drowsiness or dizziness. |
| Aquatic Chronic 3;H412 | Harmful to aquatic life with long lasting effects. |
| 2.2. Label elements | |



Danger

H225 Highly flammable liquid and vapor. H319 Causes serious eye irritation.

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H336 May cause drowsiness and dizziness.

H412 Harmful to aquatic life with long lasting effects.

[Prevention]:

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 / light / equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust / fume / gas / mist / vapors / spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection / face protection.

[Response]:

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P337+313 If eye irritation persists: Get medical advice / attention.

P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

| Ingredient/Chemical Designations | Weight % | GHS Classification | Notes |
|--|----------|--|--------|
| | | | |
| 1-Methoxy-2-propanol CAS Number: 0000107-98-2 | 25 - 50 | Flam. Liq. 3;H226 STOT SE 3;H336 | [1][2] |
| Isopropyl Alcohol CAS Number: 0000067-63-0 | 25 - 50 | Flam. Liq. 2;H225 Eye Irrit. 2;H319 STOT SE 3;H336 | [1][2] |
| Titanium dioxide | 10 - 25 | Not Classified | [1][2] |

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| CAS Number: 0013463-67-7 | | | |
|--|--------|--|--------|
| Rosin, Fumeric CAS Number: 800680-57-9 | 5 - 10 | Not Classified | [1] |
| Ethanol CAS Number: 0000064-17-5 | 5 - 10 | Flam. Liq. 2;H225 Eye Irrit. 2;H319 (@ > 50%) | [1][2] |
| Acetic acid, 1-methylethyl ester CAS Number: 0000108-21-4 | 1 - 5 | Flam. Liq. 2;H225 Eye Irrit. 2;H319 STOT SE 3;H336 | [1][2] |
| Cellulose Nitrate CAS Number: 0009004-70-0 | 1 - 5 | Flam. Sol. 1;H228 | [1] |

In accordance with paragraph (i) of \$1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

Section 4. First aid measures

| General | In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. |
|-------------------------|---|
| Inhalation | Move the exposed person to fresh air at once. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if any discomfort continues. |
| Eyes | Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues. |
| Skin | Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser. |
| Ingestion | DO NOT INDUCE VOMITING! If swallowed, vomiting may occur spontaneously. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Rinse mouth thoroughly. Get medical attention. |
| 4.2. Most important sys | mptoms and effects, both acute and delayed |
| Overview | Treat symptomatically. Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. |
| | Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage. See section 2 for further details. |
| Inhalation | May cause drowsiness or dizziness. |

4.1. Description of first aid measures

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Eyes

Causes serious eye irritation.

Section 5. Fire-fighting measures

5.1. Extinguishing media

Use foam, extinguishing powder, dry chemicals, or carbon dioxide. Water may be ineffective. Water may be used to keep fire exposed containers cool.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: None

Keep away from heat / sparks / open flames / hot surfaces - No smoking.

Keep container tightly closed.

Ground / bond container and receiving equipment.

Use explosion-proof electrical / ventilating / light / equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust / fume / gas / mist / vapors / spray.

5.3. Advice for fire-fighters

In the event of fire, wear full protective clothing and NIOSH Approved Self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Move container from fire area if it can be done without risk. Use water to keep fire exposed containers cool and disperse vapors.

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Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove sources of ignition, do not turn lights or unprotected electrical equipment on or off. In case of a major spill or spillage in a confined space evacuate the area and check that solvent vapor levels are below the Lower Explosive Limit before re-entering.

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Avoid sparks, flames, heat and smoking. Ventilate. Wear necessary protective equipment. Absorb in vermiculite, dry sand or earth and place into containers.

Small Spill: Use a non-combustible material like vermiculite, sand or earth to soak up product and place in a container for later disposal.

Section 7. Handling and storage

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7.1. Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

Keep in containers lightly closed in a cool, well ventilated place. Do not store with oxidizing agents or acids. Keep in the original container. Avoid direct sunlight

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool dry area, away from heat, sparks and open flame. Keep containers sealed when not in use. Store out of direct sunlight.

Store in a cool dry place.

Incompatible materials: Store away from oxidizers and acids.

See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

Section 8. Exposure controls and personal protection

8.1. Control parameters

Exposure Value CAS No. Ingredient Source 0000064-17-5 Ethanol OSHA TWA 1000 ppm (1900 mg/m3) ACGIH No Established Limit NIOSH TWA 1000 ppm (1900 mg/m3) 0000067-63-0 Isopropyl Alcohol OSHA TWA 400 ppm (980 mg/m3) STEL 500 ppm ACGIH TWA: 200 ppm STEL: 400 ppm NIOSH TWA 400 ppm (980 mg/m3) ST 500 ppm (1225 mg/m3) 0000107-98-2 No Established Limit 1-Methoxy-2-propanol OSHA ACGIH 100 ppm STEL TWA 100 ppm (360 mg/m3) ST 150 ppm (540 mg/m3) NIOSH 0000108-21-4 Acetic acid, 1-methylethyl ester OSHA TWA 250 ppm (950 mg/m3) ACGIH TWA: 100 ppm STEL: 200 ppm NIOSH no established RELs 0009004-70-0 Cellulose Nitrate OSHA No Established Limit ACGIH No Established Limit NIOSH No Established Limit 0013463-67-7 Titanium dioxide OSHA TWA 15 mg/m3 ACGIH TWA: 10 mg/m3 NIOSH Footnote ca 800680-57-9 Rosin, Fumeric OSHA No Established Limit ACGIH No Established Limit NIOSH No Established Limit

| 8.2. Exposure controls | |
|------------------------|--|
| Respiratory | Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. The following should be effective types of air purifying respirators: Organic vapor cartridge. |
| Eyes | Wear safety glasses with side shields to protect the eyes. An eye wash station is suggested as a good workplace practice. |
| Skin | Overalls which cover the body, arms and legs should be worn. Skin should not be exposed. All parts of the body should be washed after contact. Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Butyl rubber. Polyethylene/ethyl vinyl alcohol laminate ("PE/EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton |
| Engineering Controls | Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn. |
| Other Work Practices | Do not smoke, or drink in work area. Keep away from foodstuffs and beverages. Avoid contact with eyes and skin. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse. |

See section 2 for further details.

Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

| Appearance | Colored Liquid |
|---|----------------------------------|
| Odor | Sweet alcohol like |
| Odor threshold | Not determined |
| рН | Not Measured |
| Melting point / freezing point | Not Measured |
| Initial boiling point and boiling range | 82 C 160F |
| Flash Point | 10-15C 50-60F Method (Setaflash) |
| Evaporation rate (Ether = 1) | 1.0 |
| Flammability (solid, gas) | Not Applicable |
| Upper/lower flammability or explosive limits | Lower Explosive Limit: 3.0 |
| | Upper Explosive Limit: 19.0 |
| Vapor pressure (Pa) | 4.16 kPa Temperature (C) 20 |
| Vapor Density | >2 |
| Specific Gravity | 0.810 g/mL Temperature |
| Solubility in Water | Not Measured |
| Partition coefficient n-octanol/water (Log Kow) | Not Measured |
| Auto-ignition temperature | Not Measured |

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Decomposition temperature Viscosity (cSt) VOC Content % Volatile 9.2. Other information

No other relevant information.

Not Measured Not Measured 65-75% Approximately 5.9 Lbs/gal 65-75%

Section 10. Stability and reactivity

10.1. Reactivity

Hazardous Polymerization will not occur.
10.2. Chemical stability
Stable under normal circumstances.
10.3. Possibility of hazardous reactions
No data available.
10.4. Conditions to avoid
High temperatures and fires.
10.5. Incompatible materials
Store away from oxidizers and acids.

10.6. Hazardous decomposition products

None

Section 11. Toxicological information

Acute toxicity

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

| Ingredient | Oral LD50, mg/kg | Skin LD50, mg/kg | Inhalation Vapor LC50, mg/L/4hr | Inhalation Dust/Mist LC50, mg/L/4hr | Inhalation Gas LC50, ppm |
|-----------------------------------|--------------------------------|---|---------------------------------------|---|--------------------------------|
| 1-Methoxy-2-propanol - (107-98-2) | 5,000.00, Rat - Category: 5 | 13,000.00, Rabbit - Category: NA | No data available | No data available | No data available |

| Isopropyl Alcohol - (67-63-0) | 4,710.00, Rat - Category: 5 | 12,800.00, Rat - Category: NA | 72.60, Rat - Category: NA | No data available | No data available |
|---|-------------------------------------|---|---|-----------------------------|----------------------|
| Titanium dioxide - (13463-67-7) | >2,000.00, Rat - Category: 1 | 10,000.00, Rabbit - Category: NA | No data available | 6.82, Rat - Category: NA | No data available |
| Rosin, Fumeric - (800680-57-9) | No data available | No data available | No data available | No data available | No data available |
| Ethanol - (64-17-5) | 10,470.00, Rat - Category: NA | 20,000.00, Rabbit - Category: NA | 124.70, Rat - Category: NA | No data available | No data available |
| Acetic acid, 1-methylethyl ester - (108-21-4) | 6,750.00, Rat - Category: NA | 20,000.00, Rabbit - Category: NA | 17,129.60, Rabbit - Category: NA | No data available | No data available |
| Cellulose Nitrate - (9004-70-0) | 5,000.00, Mouse - Category: 5 | No data available | No data available | No data available | No data available |

Carcinogen Data

| CAS No. | Ingredient | Source | Value | |
|---|----------------------|--------|---|--|
| 0000064-17-5 Ethanol | | OSHA | Regulated Carcinogen: No | |
| | | NTP | Known: No; Suspected: No | |
| | | IARC | Group 1: Yes; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No; | |
| 0000067-63-0 | Isopropyl Alcohol | OSHA | Regulated Carcinogen: No | |
| | | NTP | Known: No; Suspected: No | |
| | | IARC | Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No; | |
| 0000107-98-2 | 1-Methoxy-2-propanol | OSHA | Regulated Carcinogen: No | |
| | | NTP | Known: No; Suspected: No | |
| | | IARC | Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No; | |
| 0000108-21-4 Acetic acid, 1-methylethyl ester | | OSHA | Regulated Carcinogen: No | |
| | | NTP | Known: No; Suspected: No | |
| | | IARC | Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No; | |
| 0009004-70-0 | Cellulose Nitrate | OSHA | Regulated Carcinogen: No | |
| | | NTP | Known: No; Suspected: No | |
| | | IARC | Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No; | |
| 0013463-67-7 | Titanium dioxide | OSHA | Regulated Carcinogen: No | |
| | | NTP | Known: No; Suspected: No | |
| | | IARC | Group 1: No; Group 2a: No; Group 2b: Yes; Group 3: No; Group 4: No; | |
| 800680-57-9 | Rosin, Fumeric | OSHA | Regulated Carcinogen: No | |
| | | NTP | Known: No; Suspected: No | |
| | | IARC | Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No; | |

| Classification | Category | Hazard Description |
|-------------------------------|----------|------------------------------------|
| Acute toxicity (oral) | | Not Applicable |
| Acute toxicity (dermal) | | Not Applicable |
| Acute toxicity (inhalation) | | Not Applicable |
| Skin corrosion/irritation | | Not Applicable |
| Serious eye damage/irritation | 2 | Causes serious eye irritation. |
| Respiratory sensitization | | Not Applicable |
| Skin sensitization | | Not Applicable |
| Germ cell mutagenicity | | Not Applicable |
| Carcinogenicity | | Not Applicable |
| Reproductive toxicity | | Not Applicable |
| STOT-single exposure | 3 | May cause drowsiness or dizziness. |
| STOT-single exposure | | Not Applicable |
| STOT-repeated exposure | | Not Applicable |
| Aspiration hazard | | Not Applicable |

Section 12. Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic Ecotoxicity

| Ingredient | 96 hr LC50 fish, mg/l | 48 hr EC50 crustacea, mg/l | ErC50 algae, mg/l |
|---|----------------------------------|-------------------------------|--|
| 1-Methoxy-2-propanol - (107-98-2) | 1,000.00, Oncorhynchus mykiss | 500.00, Daphnia magna | 1,000.00 (96 hr), Selenastrum capricornutum |
| Isopropyl Alcohol - (67-63-0) | 1,400.00, Lepomis macrochirus | 100.00, Daphnia magna | 100.00 (72 hr), Scenedesmus subspicatus |
| Titanium dioxide - (13463-67-7) | 294.00, Oryzias latipes | 501.00, Daphnia magna | 51.00 (72 hr), Pseudokirchnerella subcapitata |
| Rosin, Fumeric - (800680-57-9) | Not Available | Not Available | Not Available |
| Ethanol - (64-17-5) | 42.00, Oncorhynchus mykiss | 2.00, Daphnia magna | 17.921 (96 hr), Ulva pertusa |
| Acetic acid, 1-methylethyl ester - (108-21-4) | Not Available | Not Available | Not Available |
| Cellulose Nitrate - (9004-70-0) | Not Available | Not Available | 579.00 (96 hr), Pseudokirchneriella subcapitata |

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

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Not Measured 12.4. Mobility in soil No data available. 12.5. Results of PBT and vPvB assessment This product contains no PBT/vPvB chemicals. 12.6. Other adverse effects No data available.

Section 13. Disposal considerations

13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

Section 14. Transport information

| | DOT (Domestic Surface Transportation) | IMO / IMDG (Ocean Transportation) | ICAO/IATA |
|-------------------------------------|---|--|--|
| 14.1. UN number | UN1210 | UN1210 | UN1210 |
| 14.2. UN proper shipping name | Printing ink | Printing ink | Printing ink |
| 14.3. Transport hazard class(es) | DOT Hazard Class: 3 DOT Label: 3 | IMDG: 3 Sub Class: Not Applicable EmS: F-E, S-D | Air Class: 3 Packing Instruction: Cargo Only - 364, Passenger -353 |
| 14.4. Packing group | II | II | II |
| 14.5. Environmental hazards | | | |
| IMDG | Marine Pollutant: No | | |
| 14.6. Special precautions for user | | | |
| | No further information | | |

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not Applicable

Section 15. Regulatory information

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Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented. All components of this material are either listed or exempt from listing on the TSCA Inventory.

NFPA Rankings:



WHMIS 1988 Classification B2 D2B



US EPA Tier II Hazards Fire: Yes

Sudden Release of Pressure: No Reactive: No Immediate (Acute): Yes Delayed (Chronic): No

Note: Ethanol (Ethyl alcohol) has been placed on the California Proposition 65 Cancer and Developmental Lists when in alcoholic beverages.

EPCRA 311/312 Chemicals and RQs (lbs):

N-Butyl Acetate (5,000.00)

ETHYL ACETATE, EAC (5,000.00)

EPCRA 302 Extremely Hazardous:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:

Ethanol

Isopropyl Alcohol

Proposition 65 - Carcinogens (>0.0%):

Titanium dioxide

Proposition 65 - Developmental Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

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New Jersey RTK Substances (>1%):

1-Methoxy-2-propanol

Acetic acid, 1-methylethyl ester

Cellulose Nitrate

Ethanol

Isopropyl Alcohol

Titanium dioxide

Pennsylvania RTK Substances (>1%):

1-Methoxy-2-propanol

Acetic acid, 1-methylethyl ester

Cellulose Nitrate

Ethanol

Isopropyl Alcohol

Titanium dioxide

Section 16. Other information

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The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H225 Highly flammable liquid and vapor.

H226 Flammable liquid and vapor.

H228 Flammable solid.

H319 Causes serious eye irritation.

H336 May cause drowsiness and dizziness.

This product is RoHS and REACH compliant. It does not contain any of the RoHS listed substances. It does not contain any chemical from the candidate list of Substances of Very High Concern (SVHC), Annex XIV, or Annex XVII of Reach.

This information is based on our present knowledge. However, it does not constitute a guarantee for any specific product properties.

Carco urges the recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. The use of this product is beyond the control Carco or its distributor, therefore, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions

for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product.

End of Document