



SAFETY DATA SHEET

M249 Black Offset Ink

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name M249 Black Offset Ink
 Product number 71000450
 Container size 6 x 1 Liter

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

Identified uses Printing ink.
 Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier Matthews Marking Systems
 6515 Penn Avenue
 Pittsburgh, PA 15206
 412.665.2500
 412.828.4545
 info@matw.com

Manufacturer Matthews Marking Systems
 101 Fairview Ave.
 Pittsburgh, PA 15238

1.4. Emergency telephone number

Emergency telephone Chemtrec US : 1-800-424-9300 Chemtrec World: 1-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Flam. Liq. 3 - H226
 Health hazards Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Carc. 2 - H351 STOT SE 3 - H335
 Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) Xn; R22. Xi; R36/37/38. Carc. Cat. 3 R40. R10

2.2. Label elements

Pictogram



Signal word

Warning

M249 Black Offset Ink

Hazard statements	H226 Flammable liquid and vapour. H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H351 Suspected of causing cancer.
Comments	Full list of Hazard Statements is found in Sec. 16
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P280 Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 IF exposed or concerned: Get medical advice/attention. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P501 Dispose of contents/container in accordance with national regulations.
Contains	Isophorone, Glycol Ether DB
Supplementary precautionary statements	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P261 Avoid breathing vapour/spray. P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor. P302+P352 IF ON SKIN: Wash with plenty of water. 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/doctor if you feel unwell. P321 Specific treatment (see medical advice on this label). P330 Rinse mouth. P332+P313 If skin irritation occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse. P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish. P403+P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Isophorone 30-60%	
CAS number: 78-59-1	EC number: 201-126-0
Classification Acute Tox. 4 - H302 Acute Tox. 4 - H312 Eye Irrit. 2 - H319 Carc. 2 - H351 STOT SE 3 - H335	Classification (67/548/EEC or 1999/45/EC) Xn; R22, R21. Xi; R36/37. Carc. Cat. 3 R40
Cyclohexanone 10-30%	
CAS number: 108-94-1	EC number: 203-631-1
Classification Flam. Liq. 3 - H226 Acute Tox. 4 - H302 Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Dam. 1 - H318	Classification (67/548/EEC or 1999/45/EC) Xn; R20. R10
Glycol Ether DB 10-30%	
CAS number: 112-34-5	EC number: 203-961-6
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335	Classification (67/548/EEC or 1999/45/EC) Xi; R36/37/38

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Consult a physician for specific advice. Show this Safety Data Sheet to the medical personnel.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention immediately.
Ingestion	Get medical attention immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Do not induce vomiting unless under the direction of medical personnel.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing. Wash clothing and clean shoes thoroughly before reuse.
Eye contact	Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

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

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General information	See Section 11 for additional information on health hazards.
Inhalation	May be harmful if inhaled. May cause eye and respiratory system irritation. Vapours in high concentrations are anaesthetic. Overexposure to organic solvents may depress the central nervous system, causing dizziness and intoxication and, at very high concentrations, unconsciousness and death.
Ingestion	Harmful if swallowed. Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis. May cause nausea, headache, dizziness and intoxication. May cause stomach pain or vomiting.
Skin contact	Causes skin irritation. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.
Eye contact	This product is strongly irritating. Prolonged contact causes serious eye and tissue damage.

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Water spray.

5.2. Special hazards arising from the substance or mixture

Specific hazards Combustible liquid. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO₂). Carbon monoxide (CO).

5.3. Advice for firefighters

Protective actions during firefighting Evacuate area. Stop leak if safe to do so. Use water to keep fire exposed containers cool and disperse vapours. Use water spray to reduce vapours.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions No smoking, sparks, flames or other sources of ignition near spillage. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapours. Wash thoroughly after dealing with a spillage.

6.2. Environmental precautions

Environmental precautions Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Eliminate all sources of ignition. Stop leak if safe to do so. Contain and absorb spillage with sand, earth or other non-combustible material. Dilute contained spill with water. Collect and place in suitable waste disposal containers and seal securely.

6.4. Reference to other sections

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Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear protective clothing as described in Section 8 of this safety data sheet.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Provide eyewash station and safety shower. Good personal hygiene procedures should be implemented. Wash skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Keep only in the original container in a cool, well-ventilated place.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

Isophorone

Long-term exposure limit (8-hour TWA): WEL 2 ppm 11 mg/m³ Austria, Germany (AGS), Germany (DFG), Switzerland
 Long-term exposure limit (8-hour TWA): WEL 5 ppm 25 mg/m³ Denmark
 Long-term exposure limit (8-hour TWA): WEL 1 ppm 5.7 mg/m³ Finland
 Short-term exposure limit (15-minute): WEL 2 ppm 11 mg/m³ Austria
 Short-term exposure limit (15-minute): WEL 5 ppm 28 mg/m³ Belgium
 Short-term exposure limit (15-minute): WEL 5 ppm 25 mg/m³ Denmark, France, Ireland
 Short-term exposure limit (15-minute): WEL 4 ppm 22 mg/m³ Germany (AGS), Germany (DFG), Switzerland
 Short-term exposure limit (15-minute): WEL 5 ppm 29 mg/m³ Spain, United Kingdom
 Short-term exposure limit (15-minute): WEL 5 ppm 30 mg/m³ Sweden

Cyclohexanone

Long-term exposure limit (8-hour TWA): WEL 5 ppm 20 mg/m³ Austria
 Long-term exposure limit (8-hour TWA): WEL 10 ppm 40.8 mg/m³ Belgium, European Union, France, Ireland, Italy, Latvia
 Long-term exposure limit (8-hour TWA): WEL 10 ppm 40 mg/m³ Denmark
 Long-term exposure limit (8-hour TWA): WEL 10 ppm 41 mg/m³ Finland, Spain, Sweden
 Long-term exposure limit (8-hour TWA): WEL 20 ppm 80 mg/m³ Germany (AGS)
 Long-term exposure limit (8-hour TWA): WEL 40.8 mg/m³ Hungary
 Long-term exposure limit (8-hour TWA): WEL 40 mg/m³ Poland
 Long-term exposure limit (8-hour TWA): WEL 25 ppm 100 mg/m³ Switzerland
 Long-term exposure limit (8-hour TWA): WEL 10 ppm 39 mg/m³ United Kingdom
 Short-term exposure limit (15-minute): WEL 20 ppm 80 mg/m³ Austria, Denmark, Germany (AGS)
 Short-term exposure limit (15-minute): WEL 20 ppm 81.6 mg/m³ Belgium, European Union, France, Ireland, Italy, Latvia
 Short-term exposure limit (15-minute): WEL 20 ppm 82 mg/m³ Finland, Spain
 Short-term exposure limit (15-minute): WEL 81.6 mg/m³ Hungary
 Short-term exposure limit (15-minute): WEL 80 Poland
 Short-term exposure limit (15-minute): WEL 20 ppm 81 mg/m³ Sweden
 Short-term exposure limit (15-minute): WEL 50 ppm 200 mg/m³ Switzerland
 Short-term exposure limit (15-minute): WEL 50 mg/m³ The Netherlands
 Short-term exposure limit (15-minute): WEL 20 ppm 78 mg/m³ United Kingdom

Sk

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Glycol Ether DB

Long-term exposure limit (8-hour TWA): WEL 10 ppm 67.5 mg/m³ Austria, Belgium, European Union, France, Ireland, Italy, Latvia, Spain, United Kingdom

Long-term exposure limit (8-hour TWA): WEL 100 mg/m³ Denmark

Long-term exposure limit (8-hour TWA): WEL 10 ppm 68 mg/m³ Finland

Long-term exposure limit (8-hour TWA): WEL 10 ppm 67 mg/m³ Germany (AGS), Germany (DFG), Switzerland

Long-term exposure limit (8-hour TWA): WEL 67.5 mg/m³ Hungary

Long-term exposure limit (8-hour TWA): WEL 67 mg/m³ Poland

Long-term exposure limit (8-hour TWA): WEL 15 ppm 100 mg/m³ Sweden

Long-term exposure limit (8-hour TWA): WEL 50 mg/m³ The Netherlands

Short-term exposure limit (15-minute): WEL 15 ppm 101.2 mg/m³ Austria, Belgium, European Union, France, Ireland, Italy, Latvia, Spain, Switzerland, United Kingdom

Short-term exposure limit (15-minute): WEL 15 ppm 100 mg/m³ Germany (AGS)

Short-term exposure limit (15-minute): WEL 15 ppm 100.5 mg/m³ Germany (DFG)

Short-term exposure limit (15-minute): WEL 101.2 mg/m³ Hungary

Short-term exposure limit (15-minute): WEL 100 mg/m³ Poland, The Netherlands

Short-term exposure limit (15-minute): WEL 30 ppm 200 mg/m³ Sweden

WEL = Workplace Exposure Limit

Sk = Can be absorbed through the skin.

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Use explosion-proof ventilating equipment.

Eye/face protection

Wear tight-fitting, chemical splash goggles or face shield.

Hand protection

It is recommended that chemical-resistant, impervious gloves are worn. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. It is recommended that gloves are made of the following material: Butyl rubber. Nitrile rubber. Rubber (natural, latex). Frequent changes are recommended.

Other skin and body protection

Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures

Provide eyewash station and safety shower.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Organic vapour filter.

Thermal hazards

If there is a risk of contact with hot product, all protective equipment worn should be suitable for use with high temperatures.

Environmental exposure controls

Keep container tightly sealed when not in use. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Coloured liquid.

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Colour	Black.
Odour	Ether. Ketonic.
Odour threshold	Not available.
pH	pH (concentrated solution): 6.0 - 8.5
Melting point	-20°C/-4°F
Initial boiling point and range	155°C/311°F @ 760 mm Hg
Flash point	44°C/111°F CC (Closed cup).
Evaporation rate	0.01 (butyl acetate = 1)
Upper/lower flammability or explosive limits	Upper flammable/explosive limit: 9.4 % vol Lower flammable/explosive limit: 0.8 % vol
Vapour pressure	0.2 mm Hg @ 20°C/68°F
Vapour density	3.39
Relative density	1.022 g/cc 1.022 g/l 8.51 lbs/gal
Solubility(ies)	Soluble in the following materials: Ketones. Slightly soluble in water.
Partition coefficient	log Pow: 0.81
Auto-ignition temperature	204°C/400°F
Decomposition Temperature	Not applicable.
Explosive properties	Not applicable.
Oxidising properties	Not applicable.
Comments	Data based on literature. Product not tested. Information given is applicable to the product as supplied. Information declared as "Not available" or "Not applicable" is not considered to be relevant to the implementation of the proper control measures.

9.2. Other information

Volatile organic compound	This product contains a maximum VOC content of 778 g/l. This product contains a maximum VOC content of 6.48 lbs/gal.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	The following materials may react with the product: Strong oxidising agents.
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10.4. Conditions to avoid

Conditions to avoid	Avoid the following conditions: Heat, sparks, flames.
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10.5. Incompatible materials

Materials to avoid	Avoid contact with the following materials: Strong oxidising agents.
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10.6. Hazardous decomposition products

Hazardous decomposition products Heating may generate the following products: Carbon dioxide (CO₂). Carbon monoxide (CO).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Data based on literature. Product not tested.

Acute toxicity - oral

ATE oral (mg/kg) 1,033.48

Acute toxicity - dermal

ATE dermal (mg/kg) 2,273.67

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 74.22

Specific target organ toxicity - single exposure

Target organs Central nervous system Eyes Gastro-intestinal tract Respiratory system, lungs Skin

Specific target organ toxicity - repeated exposure

Target organs Central nervous system Eyes Gastro-intestinal tract Reproductive organs Respiratory system, lungs Skin

Aspiration hazard

Aspiration hazard Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

Toxicological information on ingredients.

Isophorone

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 1870 mg/kg, Oral, Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LD₅₀ 4600 ppm, Inhalation, Guinea pig

Cyclohexanone

Acute toxicity - oral

ATE oral (mg/kg) 500.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 11.0

Carcinogenicity

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

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SECTION 12: Ecological Information

Ecotoxicity Data based on literature. Product not tested.

12.1. Toxicity

Ecological information on ingredients.

Isophorone

Acute toxicity - fish	NOEC, 96 hours: 170 mg/l, Cyprinodon variegatus (Sheepshead minnow) LC ₅₀ , 96 hours: 145 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	LC ₅₀ , 48 hours: 120 mg/l, Daphnia magna

Cyclohexanone

Acute toxicity - aquatic invertebrates	EC ₅₀ , 24 hours: 820 mg/l, Daphnia magna
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12.2. Persistence and degradability

Ecological information on ingredients.

Cyclohexanone

Biodegradation	- 90 - 100:
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12.3. Bioaccumulative potential

Partition coefficient	log Pow: 0.81
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12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

Disposal methods Dispose of contents/container in accordance with national regulations. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions. When handling waste, the safety precautions applying to handling of the product should be considered.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1210
UN No. (IMDG)	1210
UN No. (ICAO)	1210
UN No. (ADN)	1210

14.2. UN proper shipping name

M249 Black Offset Ink

Proper shipping name (ADR/RID) PRINTING INK

Proper shipping name (IMDG) PRINTING INK

Proper shipping name (ICAO) PRINTING INK

Proper shipping name (ADN) PRINTING INK

14.3. Transport hazard class(es)

ADR/RID class 3

ADR/RID classification code F1

ADR/RID label 3

IMDG class 3

ICAO class/division 3

ADN class 3

Transport labels



14.4. Packing group

ADR/RID packing group III

IMDG packing group III

ICAO packing group III

ADN packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS F-E, S-D

ADR transport category 3

Emergency Action Code •3Y

Hazard Identification Number (ADR/RID) 30

Tunnel restriction code (D/E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

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15.2. Chemical safety assessment

US Federal Regulations

Hazardous Air Pollutants (HAPS) - Clean Air Act Isophorone

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

The following ingredients are listed or exempt:

Glycol Ether DB

Isophorone

Cyclohexanone

Japan - MITI

The following ingredients are listed or exempt:

Glycol Ether DB

Isophorone

Cyclohexanone

Korea - KECI

The following ingredients are listed or exempt:

Glycol Ether DB

Isophorone

Cyclohexanone

China - IECSC

The following ingredients are listed or exempt:

Glycol Ether DB

Isophorone

Cyclohexanone

Philippines – PICCS

The following ingredients are listed or exempt:

Glycol Ether DB

Isophorone

Cyclohexanone

SECTION 16: Other information

General information

Containers of this material may be hazardous when emptied, all hazard precautions given in the data sheet must be observed.

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Issued by	Matthews Marking Systems - Chemical Services Department
Revision date	31/12/2015
Revision	2
Supersedes date	01/06/2015
SDS number	5639
SDS status	Approved.
Risk phrases in full	R10 Flammable. R20 Harmful by inhalation. R21 Harmful in contact with skin. R22 Harmful if swallowed. R36/37 Irritating to eyes and respiratory system. R36/37/38 Irritating to eyes, respiratory system and skin. R40 Limited evidence of a carcinogenic effect.
Hazard statements in full	H226 Flammable liquid and vapour. H302 Harmful if swallowed. H312 Harmful in contact with skin. H315 Causes skin irritation. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H351 Suspected of causing cancer.

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.