MATERIAL SAFETY DATA SHEET

COMPANY DETAILS

Company:	Nelson Pine Industries Ltd
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IDENTIFICATION

Product Name:	GoldenEdge MDF
Other Names:	GoldenEdge, Thinline, Liteboard, Regular, Superlite, HMR and MUF Mouldings.
Manufacturers Code	Not applicable
UN Number:	None allocated
Dangerous Goods Class:	Not classified as hazardous under NZ HASNO.
Hazchem Code:	None allocated.
Toxic Substances Schedule:	Not scheduled.
Uses:	Construction of furniture and cabinets. General purpose building boards.

Physical Description/Properties:

Appearance: The products are manufactured as pressed boards ranging in thickness from 2.5mm to 32mm. They are made from wood fibres, which are bonded together with resin.

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Odour: Newly manufactured board and freshly cut surfaces may have an odour associated with heat modification of wood compounds and small amounts of residual formaldehyde from the glue used to bond the panel

Boiling Point:	Not applicable
Vapour Pressure:	Not applicable
Solubility in water:	Not soluble
Specific Gravity:	0.6 –0.9
Flash Point:	Not applicable
Flammability Limits:	Not available
Auto-Ignition Temp:	Above 220 °C

Ingredients:

Substance	CAS No	Proportion
Natural softwoods	None	>79%
Melamine/Urea Formaldehyde resin	9O11-O5-6	<20%
Paraffin wax	8002-74-2	<1%

Note:
The above ingredients are bound together under heat and pressure. The process "cures" the resin, but small amounts of formaldehyde may be released from the finished product. The finished product contains less than 0.015% free formaldehyde by weight.

HEALTH HAZARD INFORMATION

Health Effects:
When first manufactured, the unsealed surfaces of these boards may release formaldehyde gas in concentrations up to approximately 0.5 ppm. The concentrations will be highest when the boards are stored in confined, poorly ventilated spaces. When the boards are sealed with paint, varnish or other surface decorative finishes, the potential for the release of formaldehyde will be greatly reduced with concentrations in air not exceeding 0.1 ppm.

When the boards are cut, drilled or sanded etc, dust will be given off.

The known health effects of the constituents of the boards are as follows:

Wood dust:
Dust and splinters may cause irritations of the nose and throat, eyes and skin. Some woods may also be sensitisers and some people may develop allergic dermatitis or asthma. Inhalation of wood dust may increase the risk of nasal and paranasal sinus cancers.

Cured resin:
The cured resin is inert and not likely to contribute to health effects.

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Formaldehyde:
Formaldehyde gas and dilute solutions of formaldehyde in water are irritating to the nose and throat, eyes and skin. The solutions are also sensitisers and contact dermatitis has been reported.

On the basis of sufficient evidence that inhalation of formaldehyde gas caused nasal cancer in experiments with rats, the International Agency for Research on Cancer (IARC) assessed formaldehyde in 1982 as "Group 2A – probably carcinogenic to humans": Groups of rats had been exposed for six hours a day, five days a week for up to two years to formaldehyde gas in concentrations of 0, 2.0, 5.6 and 14.3 ppm. Fifty percent of those exposed to 14.3 ppm, one percent exposed to 5.6 ppm, but none exposed to 2.0 and 0 ppm developed nasal cancers. For these and other animal studies, it is clear that the nasal cancers followed prolonged severe nasal irritation from the high formaldehyde concentrations.
IARC in 2004 upgraded the classification of formaldehyde to Group 1A –carcinogenic to humans. The Monogram on their evaluation confirmed in that the "genotoxic effects of formaldehyde increased considerably at concentrations above 6ppm in rats"
Typical exposure levels associated with handling MDF are under $1/60^{th}$ of this level

There have been more than forty epidemiological studies involving over 150,000 people occupationally exposed to formaldehyde. These studies have provided only limited evidence that formaldehyde exposure may be associated with an increased risk of nasal and nasopharyngeal cancer, a very rare cancer in humans.

Exposure to the dust, gas and vapour from the boards may result in the following health effects:

Acute:

Swallowed:	Unlikely to occur, but swallowing the dust would result in abdominal discomfort.
Eye:	The dust, gas and vapour may be irritating to the eyes causing discomfort and redness.
Skin:	The dust, gas and vapour may irritate the skin, resulting in itching and occasional red rash. Allergic contact dermatitis may occur.
Inhaled:	The dust, gas and vapour may irritate the nose, throat and lungs, especially in people with upper respiratory tract or chest complaints. Asthma may occur.

Chronic:

Repeated exposures over many years to uncontrolled dust from these boards may increase the risk of allergic dermatitis, asthma or chronic nose or throat irritation in some people. The risk of nasal or paranasal sinus cancers may also be increased under these conditions.

First Aid:

Swallowed: Drink a glass of water.

Eye: Flush with flowing water for at least 15 minutes and if symptoms persist, seek immediate medical attention.

Skin: Wash with mild soap and running water.

Inhaled: Leave the dusty area.

Advice to Doctor: Treat symptomatically.

PRECAUTIONS FOR USE

EXPOSURE LIMITS

The current New Zealand work place exposure standards and biological indices for wood dust, formaldehyde and paraffin wax are:

Wood dust (soft wood): 5mg/m^3 (TWA)

Formaldehyde: 1.0ppm (1.2mg/m^3) (ceiling)
It is also listed as a sensitiser and a suspected carcinogen

paraffin wax (fume): 2mg/m^3 time-weighted average (TWA)

Note : For other countries, guidelines please contact the relevant regulatory authority or you may contact Nelson Pine Industries Ltd

Engineering Controls:

All work with these boards should be carried out in such a way as to minimise the generation of dust, gas and vapours.

Under factory conditions, sawing, drilling, sanding etc should be done with equipment fitted with exhaust devices capable of removing dust, gas and vapour at source. Hand power tools should only be used in well ventilated areas so as to avoid the spread of dust, gas and vapours.

Storage and work areas should be well ventilated.

Work areas should be cleaned at least daily and dust removed by vacuum cleaning or wet sweeping method.

Skin Protection:

Wear loose, comfortable clothing. Long-sleeved shirts and trousers are recommended if skin irritation occurs.

After handling boards, wash with mild soap and water. Do not scratch or rub the skin if it becomes irritated.

Wash work clothes regularly and separate from other clothes.

Comfortable work gloves should be worn (AS/NZS 2161).

Respiratory Protection:

A class P1 or P2 filter or disposable facepiece respirator should be worn when sawing, drilling or sanding etc.

Respirators should comply with AS/NZS 1716 and be selected, used and maintained in accordance with AS/NZS 1715.

Eye Protection:

Safety glassed or non-fogging goggles (AS/NZS 1337) should be worn when sawing, drilling or sanding etc.

Flammability:

The boards are flammable but difficult to ignite. Product may ignite at temperatures of over 185 °C

Avoid a build-up of dust and keep all storage and work areas well ventilated.

Avoid sources of radiant heat and flame and avoid sparks and sources of ignition in all electrical equipment, including dust extraction equipment.

SAFE HANDLING INFORMATION

Storage and Transport:

The boards should be stored in dry and well ventilated areas away from sources of heat, flame or sparks.

No special transport requirements are considered necessary.

Spills and Disposal:

Off-cuts and general waste material should be placed in containers and disposed of at an approved landfill site, or burnt in an approved furnace or incinerator, in accordance with disposal authority guidelines.
MDF or MDF dust should not be burnt in BBQs combustion stoves or open fires as irritating gases are emitted

Dust should be cleaned up by vacuuming or wet sweeping.

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Fire/Explosion Hazard:

Early fire hazard properties (as stated in AS 1530 Part 3);

Ignitability index:	14	Spread of flame index:	7
Heat evolved index:	6	Smoke developed index:	3

Burning or smouldering boards or dust can generate carbon monoxide, aldehydes and other pyrolysis products typical of burning organic material. Dry dust in high concentrations can be explosive. Use water, fog, foam, CO_2 or dry chemical to extinguish.

Contact: **Nelson Pine Industries Ltd**
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