



Material Safety Data Sheet

Astro® Mel NW-3A

1. Product and company identification

Product name	Astro® Mel NW-3A
MSDS Number	000000108279
Product Type	Methylated melamine resin
Product use	Cross-linking agent.
Manufacturer, Importer, Supplier	Hexion Specialty Chemicals, Inc. 6210 Campground Road Louisville KY 40216 hazcom@hexion.com
Print date	24-MAR-2009
Telephone	For Emergency Medical Assistance Call Health & Safety Information Services, 1-866-303-6949 For Emergency Transportation Information CHEMTREC US Domestic (800) 424-9300 CHEMTREC International (703) 527-3887 CANUTEC CA Domestic (613) 996-6666 For additional health and safety or regulatory information, call 1 888-4-Hexion.

2. Hazards identification

Form	Liquid
Odor	Pungent
OSHA/HCS status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview	WARNING ! MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTION.

Potential acute health effects

Inhalation	May cause sensitization by inhalation.
Ingestion	Not expected to be harmful under normal conditions of use.
Skin	May cause irritation on prolonged or repeated contact. May cause sensitization by skin contact.
Eyes	May cause eye irritation.

Potential chronic health effects

Chronic effects	Some reports suggest that formaldehyde may cause respiratory sensitization, such as asthma, and that preexisting respiratory and skin disorders may be aggravated by exposure.
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Carcinogenicity	Contains material which can cause cancer. Risk of cancer depends on
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	duration and level of exposure.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.
Target organs	Review Section 2 and 11 for any additional assessments.

Over-exposure signs/symptoms

Inhalation	Adverse symptoms may include the following: wheezing and breathing difficulties, asthma,
Ingestion	No specific data.
Skin	Adverse symptoms may include the following: irritation, redness,
Eyes	No specific data.
Medical conditions aggravated by over-exposure	Pre-existing respiratory and skin disorders may be aggravated by over-exposure to this product.

See section 11 for more detailed information on health effects and symptoms.

3. Composition/Information on ingredients

<u>Ingredient name</u>	<u>CAS number</u>	<u>%</u>
Formaldehyde	50-00-0	0.1 - 1.0

*** Any applicable Canadian trade secret numbers will be listed in Section 15.*

4. First aid measures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Skin contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Inhalation	Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. In the event of any complaints or symptoms, avoid further exposure.
Ingestion	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an

unconscious person. Get medical attention immediately.

Protection of first aid personnel

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

Flammability of the product

In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media
Suitable

Use an extinguishing agent suitable for the surrounding fire.

Not suitable

None known.

Special exposure hazards

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products

Decomposition products may include the following materials: carbon monoxide, carbon dioxide, nitrogen oxides, methanol, formaldehyde,

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency

contact information and section 13 for waste disposal.

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling

Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Ingredient name

Formaldehyde

Occupational exposure limits

ACGIH TLV Ceiling

0.37 mg/m³ 0.3 ppm

OSHA PEL Z2 8-hr TWA

0.75 ppm

OSHA PEL Z2 STEL (15 mins)

2 ppm

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end

of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Form	Liquid
Flash point	Greater than 93.4 °C(200.1 °F)
Auto-ignition temperature	Not available
Flammable limits	
Lower:	Not available
Upper:	Not available
Color	Clear, colorless/colourless
Odor	Pungent
pH	Approx. 9.0 @ 25 °C(77 °F)
Boiling point	Approx. 100 °C(212 °F)
Relative density	Approx. 1.24
Vapor pressure	Not available
Odor threshold	Not available
Solubility	Complete
Partition coefficient: n-octanol/water	Not available
Evaporation rate	Negligible
Vapor density	Not available

10. Stability and reactivity

Stability

The product is stable. Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid

Avoid exposure - obtain special instructions before use.

Materials to avoid

Reactive or incompatible with the following materials: acids,

Hazardous decomposition products

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

11. Toxicological information

Acute toxicity**Ingredient name**

Formaldehyde

LD50 Oral	Mouse	42 mg/kg
LD50 Oral	Guinea pig	260 mg/kg
LD50 Oral	Rat	800 mg/kg
LC50 Inhalation	Mouse	0.454 mg/l/4 h
LC50 Inhalation	Mouse	0.505 mg/l/2 h
LC50 Inhalation	Rat	0.578 mg/l/2 h
LC50 Inhalation	Rat	250 ppm/2 h
LD50 Dermal	Rabbit	270 mg/kg

Other Toxicological Information**Carcinogenicity****Conclusion/Summary**

OSHA regulates formaldehyde as a potential human carcinogen. See the OSHA Formaldehyde Workplace Standard at 29CFR 1910.1048. Rats chronically exposed to 14 ppm formaldehyde contracted nasal cancer. The National Toxicology Program (NTP) has listed formaldehyde as a probable human carcinogen. The International Agency for Research on Cancer (IARC) has concluded formaldehyde is carcinogenic to humans. Safe handling and use instructions are provided in this MSDS and in the OSHA Formaldehyde Workplace Standard at 29CFR1910.1048. OSHA has identified 0.5 ppm as the "Action Level". Please review and understand the guidance contained in this MSDS and refer to the OSHA Formaldehyde Standard for regulatory requirements that may be applicable to your operation and use. For further information and a review of various studies, go to www.osha.gov/SLTC/formaldehyde, www.iarc.fr and other authoritative websites.

Classification**Ingredient name**

Formaldehyde

ACGIH	Suspected human carcinogen.
IARC	IARC Group 1, carcinogenic to humans
NTP	NTP reasonably anticipated to be carcinogenic
OSHA	OSHA cancer potential

12. Ecological information

Environmental effects

No known significant effects or critical hazards.

Aquatic ecotoxicity**Ingredient name**

Formaldehyde

Fresh water	Acute LC50 24.1 mg/l/4 d	Fathead minnow
Fresh water	Acute LC50 40 mg/l/4 d	Bluegill
Fresh water	Acute LC50 40 mg/l/4 d	Rainbow trout,donaldson

trout

Other adverse effects

No known significant effects or critical hazards.

13. Disposal considerations

Waste disposal

The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transportation

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

International transport regulations

Regulatory information	UN number	Proper shipping name	Classes/*PG	Reportable Quantity (RQ)
CFR	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Formaldehyde)	Class 9 III	Formaldehyde
TDG		Non-regulated		
IMO/IMDG	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. contains (Formaldehyde)	Class 9 III	Formaldehyde

*PG : Packing group

15. Regulatory information

US regulations

HCS Classification Sensitizing material, Carcinogen

U.S. Federal regulations

SARA 311/312 Classification Immediate (acute) health hazard, Delayed (chronic) health hazard

SARA 313 - Supplier Notification

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.
Formaldehyde - 50-00-0 (0.40%),

SARA 302 Extremely Hazardous Substances None required.

State regulations

Massachusetts RTK Substances None required.

New Jersey RTK Hazardous Substances The following components are listed:
Formaldehyde,

Pennsylvania RTK Hazardous Substances The following components are listed:

Formaldehyde,

California Prop. 65: WARNING: This product contains a chemical known to the State of California to cause cancer. Formaldehyde - 50-00-0,

Canada

WHMIS (Canada) Class D-2A: Material causing other toxic effects (Very toxic).

Canadian lists Canadian NPRI: None required.

International regulations

Chemical inventories

Europe inventory Not determined.
Japan inventory (ISHL) Not determined.
Philippines inventory (PICCS) Not determined.
New Zealand Inventory of Chemicals (NZIoC) Not determined.
Japan inventory (ENCS) Not determined.
Korea inventory (KECI) Not determined.
Australia inventory (AICS) Not determined.
China inventory (IECSC) Not determined.
United States inventory (TSCA 8b) All components are listed or exempted.
Canada inventory All components are listed or exempted.

16. Other information

**Hazardous Material
Information System III
(U.S.A.)**

Health : 1
Flammability: 1
Physical hazards : 0
Chronic : *

Caution: HMIS[®] ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS[®] ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS[®] ratings are to be used with a fully implemented HMIS[®] program. HMIS[®] is a registered mark of the National Paint & Coatings Association (NPCA). HMIS[®] materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

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