SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

Cascoset(TM) G-1131B /BG3170/50#

Section 1. Product and company identification

GHS product identifier	:	Cascoset(TM) G-1131B /BG3170/50#
MSDS Number	:	000000101653
Product type	:	Catalyst - Paraformaldehyde
Material uses	:	Wood Adhesives, Composites, Laminates or Related Board Products

Manufacturer/Supplier/Importer : Hexion Inc.
180 East Broad Street
Columbus, Ohio
43215 USA

Contact person : 4information@hexion.com

Telephone : For additional health and safety or regulatory information, call 1 888 443 9466.

Emergency telephone number : 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

Part of the CASCO® Brand of Adhesives and Resins from Hexion Inc.

Section 2. Hazards identification

Classification of the substance or mixture : FLAMMABLE SOLIDS - Category 2
ACUTE TOXICITY:oral - Category 4
ACUTE TOXICITY:inhalation - Category 4
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [central nervous system (CNS), optic nerve] - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation] - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) [gastrointestinal tract, kidneys, liver, respiratory tract, skin] - Category 2

COMBUSTIBLE DUSTS

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :

H228 Flammable solid.
H302 Harmful if swallowed.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H370 Causes damage to organs: (central nervous system (CNS), optic nerve)
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure. (gastrointestinal tract, kidneys, liver, respiratory tract, skin)
May form combustible dust concentrations in air.

Precautionary statements

General : Not applicable.

Prevention :

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves.
Wear eye or face protection.
Wear protective clothing.
Wear respiratory protection.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Use only outdoors or in a well-ventilated area.
Do not breathe dust.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response :

Get medical attention if you feel unwell.
IF exposed:
Call a POISON CENTER or physician.
IF INHALED:
If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or physician if you feel unwell.
If experiencing respiratory symptoms:
Call a POISON CENTER or physician.
IF SWALLOWED:
Call a POISON CENTER or physician if you feel unwell.
Rinse mouth.

IF ON SKIN:
Wash with plenty of soap and water.
Wash contaminated clothing before reuse.
If skin irritation or rash occurs:
Get medical attention.
IF IN EYES:
Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists:
Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Other hazards which do not result in classification : Unclassified Hazard - Combustible Dust/Smoldering HazardCombustible dust when finely divided and suspended in air.Fine dust clouds may form explosive mixtures with air.Product can explode if dust cloud is formed and ignited.

Minimize airborne dust. Eliminate all fire/ignition sources including static discharges near product/package. Prevent dust accumulation. Refer to Handling Section 7 of the MSDS for more information.

If exposed to moisture or if heated above 75°C, the powder can begin to self-heat or exotherm.Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	% by weight	CAS number
Paraformaldehyde	50 - 67	30525-89-4
Methanol	1 - 3	67-56-1
Formaldehyde	1.3 - 2.4	50-00-0

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If

necessary, call a poison center or physician.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. Get medical attention. If necessary, call a poison center or physician. 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. In the event of any complaints or symptoms, avoid further exposure.

Skin contact : Wash with plenty of soap and 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. If necessary, call a poison center or physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. 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.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use water spray or mist, dry chemical, foam or CO2.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Combustible solid that burns. Flammable solid. Fine dust clouds may form explosive mixtures with air.

Hazardous thermal decomposition products : Decomposition products may include the following materials: carbon dioxide

carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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.

Remark : Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions). The ATEX Directive defines combustible powders as less than 500 microns in diameter. When processed with flammable liquids/vapors/mists, ignitable (hybrid) mixtures may be formed with combustible dusts. Ignitable mixtures will increase the rate of explosion pressure rise and the MIE will be lower than the pure dust in air mixture. The Lower Explosive Limit (LEL) of the vapor/dust mixture will be lower than the individual LELs for the vapors/mists or dusts. See NFPA 77 for additional guidance.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : 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. Minimize airborne dust and eliminate all fire/ignition sources. Clean up spill as soon as possible using procedures described below. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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).

Methods and material for containment and cleaning up

Small spill : Move containers from spill area. Do not use air hoses for cleaning. Minimize dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Use spark-proof tools and explosion-proof equipment. Vacuums with explosion-proof motors should be used. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas.

Avoid creating dusty conditions and prevent wind dispersal. Do not use air hoses for cleaning. Minimize dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Use spark-proof tools and explosion-proof equipment. Vacuums with explosion-proof motors should be used. Dispose of via a licensed waste disposal contractor. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see section 8 of SDS).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.Avoid exposure - obtain special instructions before use.Do not handle until all safety precautions have been read and understood.Do not get in eyes or on skin or clothing.Do not ingest.Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame).Prevent dust accumulation.Use only with adequate ventilation.Wear appropriate respirator when ventilation is inadequate.Do not enter storage areas and confined spaces unless adequately ventilated.Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.Store and use away from heat, sparks, open flame or any other ignition source.Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources.Use only non-sparking tools.Take precautionary measures against electrostatic discharges.To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.Empty containers retain product residue and can be hazardous.Do not reuse container.

COMBUSTIBLE DUST HANDLING PROCEDURES:
Combustible dusts at sufficient concentrations can form explosive mixtures with air. High dust concentrations should be avoided. Follow US NFPA Standard 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids," UK HSE Guidance HSG 103, approved Codes of Practice (ACOPS) established for Explosive Atmospheres under the ATEX Directive 1999/92/EC for worker protection and ATEX Directive 94/9/EC that regulates equipment and protection systems used in potentially explosive atmospheres or other national guidance on safe handling of combustible dusts. Train workers in the recognition and prevention of hazards associated with combustible dust in the plant.

Minimize airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. Establish good housekeeping practices. Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. Use continuous suction at points of dust generation to capture and

minimize the accumulation of dusts. Particular attention should be given to overhead and hidden horizontal surfaces to minimize the probability of a "secondary" explosion. According to NFPA Standard 654, dust layers 1/32 in.(0.8 mm) thick can be sufficient to warrant immediate cleaning of the area.

Control sources of static electricity. This product or the package itself can accumulate static charges, and static discharge can be a source of ignition. Solids handling systems must be designed in accordance with applicable NFPA standards (including 654 and 77) and other national guidance. Do not empty directly into flammable solvents or in the presence of flammable vapors. The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastics cannot be grounded, and antistatic bags do not completely protect against development of static charges.

Advice on general occupational hygiene : 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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in a cool, dry location separate from other combustibles and sources of heat or humidity. Elevated storage temperatures shorten shelf life and increase the probability for an exotherm. Recommended storage temperature is below 20°C (70°F). Rotate stock in storage to use oldest first. Store in single rows no more than one high to allow adequate cooling or heat disipation. If bags are exposed to heat, get wet, or exceed their shelf life, move to a safe location away from other combustible materials. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep away from heat, hot surfaces, sparks and flame. 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Methanol	**ACGIH TLV (1994-09-01)** Time Weighted Average (TWA) 262 mg/m3 200 ppm **Short Term Exposure Limit (STEL)** 328 mg/m3 250 ppm **OSHA PEL (1993-06-30)** Time Weighted Average (TWA) 260 mg/m3 200 ppm **NIOSH REL (1994-06-01)** Time Weighted Average (TWA) 260 mg/m3 200 ppm **Short Term Exposure Limit value for a 15-minute reference period expressed in parts per million or in mg/m3.** 325 mg/m3 250 ppm

Formaldehyde	**ACGIH TLV (2000-03-01)** Ceiling,is a a limit indicating the maximum concentration of a chemical substances in the breathing zone that should not be exceeded. 0.37 mg/m3 0.3 ppm **OSHA PEL (1993-06-30)** Time Weighted Average (TWA) 0.75 ppm **Short Term Exposure Limit value for a 15-minute reference period expressed in parts per million or in mg/m3.** 2 ppm **NIOSH REL (1994-06-01)** Time Weighted Average (TWA) 0.016 ppm **Ceiling,is a a limit indicating the maximum concentration of a chemical substances in the breathing zone that should not be exceeded.** 0.1 ppm

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. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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.

Individual protection measures

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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : 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., When there is a risk of ignition from static electricity, wear anti-static protective clothing., For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves., For PPE selection see National Fire Protection Association (NFPA) 2113, Standard on Selection, Care, Use and Maintenance of Flame-Resistant Garments for Protection of Industrial Personnel Against Flash Fire.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, particulate filter 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.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid
Color : Tan to brown

Odor : Formaldehyde
Odor threshold : Not available

pH : Not applicable.

Melting point/ Freezing point : Not available

Boiling point : Not applicable.

Flash point : 81 °C (178 °F)

Burning time : Not available
Burning rate : Not available
Evaporation rate : Not applicable.

Flammability (solid, gas) : If exposed to moisture or if heated above 75°C, the powder can begin to self-heat or exotherm. Bags will get hot to the touch and release disagreeable odors several days before bags are hot enough to smolder (like a peat moss fire). In the event of a bag smoldering or catching fire, remove bag to a well-ventilated location away from other combustibles and notify your Emergency Response team. Submerge

		the powder or bag in water in a large container or dike for several days until completely soaked or cooled. Any containment devices must be vented or opened to allow heat removal and prevent pressure build-up.
Lower and upper explosive (flammable) limits	:	**Lower:** Not available **Upper:** Not available
Vapor pressure	:	1 mm Hg @ 20 °C (68 °F)
Vapor density	:	Not available
Relative density	:	1.03 - 1.07
Solubility	:	Not available
Solubility in water	:	Dispersible
Partition coefficient: n-octanol/water	:	Not available
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
SADT	:	Not available
Viscosity	:	**Dynamic:** Not available **Kinematic:** Not available

Other information

The SDS is not to be used as a specification sheet. For Specific technical information on the product listed above, a sales specification sheet should be obtained from your Hexion representative.

Section 10. Stability and reactivity

Reactivity	:	Stable under normal conditions.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation. See Section 7 Handling.
Incompatible materials	:	Reactive or incompatible with the following materials: oxidizing materials acids
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Formaldehyde				
	LD50 Oral	Rat	800 mg/kg	-
	LC50 Inhalation	Rat	0.578 mg/l	2 h
Paraformaldehyde				
	LD50 Oral	Rat	800 mg/kg	-
Methanol				
	LD50 Oral	Rat	5,628 mg/kg	-

Conclusion/Summary : Not available

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Formaldehyde	Skin - Erythema/Eschar	Rabbit	2.5	20 hrs	-
	Skin - Edema	Rabbit	3	20 hrs	-
	eyes - Cornea opacity	Mouse	> 3		-

Conclusion/Summary
Skin : Not available
eyes : Not available
Respiratory : Not available

Sensitization

Conclusion/Summary
Skin : Not available
Respiratory : Not available

Mutagenicity

Conclusion/Summary : Not available

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Formaldehyde	- - - - -	-		
Remarks:	The National Toxicology Program (NTP) classifies formaldehyde as "known to be a human carcinogen" with respect to nasopharyngeal cancer, sinonasal cancer and myeloid leukemia. The International Agency for Research on Cancer (IARC) classifies formaldehyde as "carcinogenic to humans". U.S. OSHA regulates formaldehyde as a potential human carcinogen. See the OSHA Formaldehyde Workplace Standard at 29 CFR 1920.1048 (the "OSHA Standard"). Safe handling and use instructions are provided in this SDS and in the OSHA Standard. OSHA has identified 0.5 ppm, calculated as an eight-			

	hour time-weighted average ("TWA") concentration, as the "Action Level". Please review and understand the guidance contained in this MSDS, and refer to the OSHA Standard for regulatory requirements that might be applicable to your operation and use. Many studies and other evaluations have been performed concerning formaldehyde's potential to cause cancer. To review some of these studies and for further information go to www.osha.gov/SLTC/formaldehyde; http://monographs.iarc.fr; http://ntp-server.niehs.nih.gov; http://epa.gov/iris/subst/0419.htm; http://www.nap.edu/catalog.php?record_id=13142 and other authoritative websites.

Conclusion/Summary : Not available

Reproductive toxicity

Conclusion/Summary : Not available

Teratogenicity

Conclusion/Summary : Not available

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Paraformaldehyde	Category 3		Respiratory tract irritation
Formaldehyde	Category 3		Respiratory tract irritation
Methanol	Category 3 Category 1 Category 2		Respiratory tract irritation central nervous system (CNS) optic nerve

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Formaldehyde	Category 2		respiratory tract skin
Methanol	Category 2		kidneys liver gastrointestinal tract skin respiratory tract

Aspiration hazard

Not available

Information on the likely routes of exposure : Not available

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation	:	Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	:	Causes skin irritation. May cause an allergic skin reaction.
Ingestion	:	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	:	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	:	Adverse symptoms may include the following: respiratory tract irritation coughing wheezing and breathing difficulties asthma
Skin contact	:	Adverse symptoms may include the following: irritation redness
Ingestion	:	No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects	:	Not available
Potential delayed effects	:	Not available

Long term exposure

Potential immediate effects	:	Not available
Potential delayed effects	:	Not available

Potential chronic health effects

Conclusion/Summary	:	Not available
General	:	May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	:	May cause cancer. Risk of cancer depends on 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.

Numerical measures of toxicity

Acute toxicity estimates

Route	**ATE value**
Oral	1,221.2 mg/kg
Route	**ATE value**
Dermal	9,460.4 mg/kg
Route	**ATE value**

Inhalation (vapors)	12.7 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
formaldehyde			
	Acute LC50 6.7 mg/l -	Fish - Striped bass	96 h
	Acute LC50 6.9 mg/l -	Fish - Zebra danio	6 d
	Acute No-observable-effect-concentration > 47.9 mg/l -	Fish - Medaka, high-eyes	28 d
	Acute EC50 5.8 mg/l Fresh water	Aquatic invertebrates. Water flea	2 d
	Acute EC50 4.9 mg/l Fresh water	Aquatic plants - Algae	72 h
	Acute EC50 4.3 mg/l Fresh water	Aquatic plants - Algae	48 h
	Acute EC50 19 mg/l -	Micro-organism - Soil organisms	3 h
Paraformaldehyde			
	Acute LC50 60 mg/l Fresh water	Fish - Rainbow trout,donaldson trout	96 h
methanol			
	Acute EC50 13,000 mg/l Fresh water	Fish - Rainbow trout,donaldson trout	4 d

Conclusion/Summary : Not available

Persistence/degradability

Conclusion/Summary : Not available

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Formaldehyde	0.35	< 1	low
Methanol	-0.77	-	low

Mobility in soil

Soil/water partition coefficient (KOC) : Not available

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable

products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

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/NA number	Proper shipping name	Classes/*PG	Reportable Quantity (RQ)
CFR	2213	PARAFORMALDEHYDE MIXTURE	Class 4.1 III	Paraformaldehyde , Formaldehyde
IMO/IMDG	2213	PARAFORMALDEHYDE MIXTURE	Class 4.1 III	
IATA (Cargo)	2213	PARAFORMALDEHYDE MIXTURE	Class 4.1 III	

*PG : Packing group

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

HCS Classification : Toxic material
Corrosive material
Sensitizing material
Carcinogen
Target organ effects

U.S. Federal regulations : **United States - TSCA 12(b) - Chemical export notification:** None required.

United States - TSCA 5(a)2 - Final significant new use rules: Not listed
United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed
United States - TSCA 5(e) - Substances consent order: Not listed
SARA 311/312 Classification - Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

SARA 313

		Product name	CAS number
Form R - Reporting requirements	:	Formaldehyde	50-00-0
	:	Methanol	67-56-1
Supplier notification	:	Formaldehyde	50-00-0
	:	Methanol	67-56-1

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

California Prop. 65: : WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Formaldehyde	Yes.	No.	40 µg/day	No.
Methanol	No.	Yes.	No.	No.

United States inventory (TSCA 8b) : All components are listed or exempted.

International regulations

International lists :
Australia inventory (AICS): Not determined.
Canada inventory: All components are listed or exempted.
Japan inventory: Not determined.
China inventory (IECSC): All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
United States inventory (TSCA 8b): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

Section 16. Other information

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

Health	*	3
Flammability		2
Physical hazards		0

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.

Full text of abbreviated H statements : Not applicable.

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Key to abbreviations :
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
UN = United Nations
References : Not available

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