Nu-Calgon

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product name	**Pan-Spray (White) 4296-50**
CAS #	Mixture
Product Use	Coating
Manufacturer	Nu-Calgon 2008 Altom Court St. Louis, MO 63146 US Phone: 314-469-7000 / 800-554-5499 Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. Hazards Identification

Emergency overview

DANGER
Extremely flammable. Contents under pressure. Containers may explode when heated.
May cause chronic toxic effects.
MAY CAUSE EYE AND SKIN IRRITATION.

Potential short term health effects

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Eyes	May cause irritation.
Skin	May cause irritation.
Inhalation	Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).
Ingestion	May cause stomach distress, nausea or vomiting.
Target organs	Eyes. Kidney. Liver. Respiratory system. Skin.
Chronic effects	Prolonged or repeated exposure can cause drying, defatting and dermatitis.
Signs and symptoms	Symptoms may include redness, oedema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Potential environmental effects	Components of this product have been identified as having potential environmental concerns.

3. Composition/Information on Ingredients

Components	CAS #	Percent
Heptane	142-82-5	10 - 30
Methane, oxybis-	115-10-6	10 - 30
Toluene	108-88-3	10 - 30
Propane	74-98-6	7 - 13
Acetone	67-64-1	5 - 10
Titanium oxide	13463-67-7	5 - 10
Isobutane	75-28-5	3 - 7
2-Propanol, 1-methoxy-, acetate	108-65-6	1 - 5
Distillates, petroleum, steam-cracked, polymers with light steam-cracked petroleum naphtha	68410-16-2	1 - 5
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with montmorillonite	68911-87-5	1 - 5
Methyl isobutyl ketone	108-10-1	0.1 - 1

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

Skin contact	Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.
Inhalation	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.
Ingestion	Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.
Notes to physician	Symptoms may be delayed.
General advice	Do not puncture or incinerate container. Keep away from sources of ignition. No smoking. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties	Flammable by WHMIS criteria. Containers may explode when heated.
Extinguishing media	
Suitable extinguishing media	Carbon dioxide. Dry chemical. Foam.
Unsuitable extinguishing media	Water.
Protection of firefighters	
Specific hazards arising from the chemical	Contents under pressure. Pressurised container may explode when exposed to heat or flame. Cool containers with flooding quantities of water until well after fire is out. Firefighters should wear a self-contained breathing apparatus.
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon.
Explosion data	
Sensitivity to mechanical impact	Not available.
Sensitivity to static discharge	Not available.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Remove sources of ignition. Although the chance of a significant spill or leak is unlikely in aerosol containers, in the event of such an occurrence, absorb spilled material with a non-flammable absorbent such as sand or vermiculite.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.
Storage	Keep out of reach of children. Do not store at temperatures above 49°C (120.2°F). Keep away from heat, open flames or other sources of ignition.

8. Exposure Controls/Personal Protection

Occupational exposure limits

ACGIH Biological Exposure Indices

Components	Type	Value
Acetone (CAS 67-64-1)	BEI	50 mg/l

ACGIH Biological Exposure Indices

Components	Type	Value
Methyl isobutyl ketone (CAS 108-10-1)	BEI	1 mg/l
Toluene (CAS 108-88-3)	BEI	0.3 mg/g 0.03 mg/l 0.02 mg/l

US. ACGIH Threshold Limit Values

Components	Type	Value
Acetone (CAS 67-64-1)	STEL	750 ppm
	TWA	500 ppm
Heptane (CAS 142-82-5)	STEL	500 ppm
	TWA	400 ppm
Isobutane (CAS 75-28-5)	STEL	1000 ppm
Methyl isobutyl ketone (CAS 108-10-1)	STEL	75 ppm
	TWA	20 ppm
Titanium oxide (CAS 13463-67-7)	TWA	10 mg/m3
Toluene (CAS 108-88-3)	TWA	20 ppm

Exposure limits Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH.

Engineering controls General ventilation normally adequate.

Personal protective equipment

Eye/Face protection Wear safety glasses with side shields.

Hand protection Rubber gloves. Confirm with a reputable supplier first.

Skin and body protection As required by employer code.

Respiratory protection Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practices.
When using do not eat or drink.
Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.

9. Physical and Chemical Properties

Appearance	Aerosol
Colour	White.
Form	Aerosol.
Odour	Solvent
Odour threshold	Not available.
Physical state	Gas.
pH	Not available.
Freezing point	Not available.
Boiling point	Not available.
Pour point	Not available.
Evaporation rate	> 1 (BuAc=1)
Flash point	Not available.
Auto-ignition temperature	246 - 480 °C (474.8 - 896 °F)
Flammability Limits in Air, Upper, % by Volume	Not available.

Flammability Limits in Air, Lower, % by Volume	> 1
Heat of combustion	Not available.
Vapour pressure	55 - 65 psig @ 20°C
Vapour density	>= 1
Specific gravity	0.77 - 0.81
Partition coefficient (n-octanol/water)	Not available.
Solubility (Water)	Negligible
Relative density	Not available.
Viscosity	Not available.
VOC	Not available.
Percent volatile	Not available.

10. Stability and Reactivity

Reactivity	This product may react with strong oxidising agents.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Aerosol containers are unstable at temperatures above 49°C (120.2°F). Do not mix with other chemicals.
Incompatible materials	Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Toxicological data

Components	**Species**	**Test results**
2-Propanol, 1-methoxy-, acetate (CAS 108-65-6)		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg
Oral		
LD50	Rat	8532 mg/kg
LC50		
Not available.		
Acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	15800 mg/kg
		20 ml/kg
Inhalation		
LC50	Mouse	44000 mg/m3/4H
	Rat	76 mg/l, 4 Hours
		50.1 mg/l, 8 Hours
		39 mg/l/4h
Oral		
LD50	Human	2857 mg/kg
	Mouse	3000 mg/kg
	Rabbit	5340 mg/kg
	Rat	5800 mg/kg

Components	Species	Test results
Distillates, petroleum, steam-cracked, polymers with light steam-cracked petroleum naphtha (CAS 68410-16-2)		
LC50		
Not available.		
LD50		
Not available.		
Heptane (CAS 142-82-5)		
Acute		
Inhalation		
LC50	Rat	103 mg/l, 4 Hours
LD50	Mouse	75 mg/l, 2 Hours
Oral		
LD50	Rat	15000 mg/kg
Isobutane (CAS 75-28-5)		
Acute		
Inhalation		
LC50	Rat	658 mg/l/4h
LD50		
Not available.		
Methane, oxybis- (CAS 115-10-6)		
Acute		
Inhalation		
LC50	Mouse	494.4 mg/l, 15 Minutes
		385.9 mg/l, 30 Minutes
	Rat	308.5 mg/l, 4 Hours
LD50		
Not available.		
Methyl isobutyl ketone (CAS 108-10-1)		
Acute		
Dermal		
LD50	Rabbit	16000 mg/kg
Inhalation		
LC50	Rat	8.2 mg/l/4h
Oral		
LD50	Mouse	1200 mg/kg
	Rat	2080 mg/kg
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Rat	> 1442.8 mg/l, 15 Minutes
LD50		
Not available.		
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with montmorillonite (CAS 68911-87-5)		
LC50		
Not available.		
LD50		
Not available.		

Components	Species	Test results
Titanium oxide (CAS 13463-67-7)		
Acute		
Oral		
LD50	Rat	24000 mg/kg
LC50		
Not available.		
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	12125 mg/kg
		8390 mg/kg
		14.1 ml/kg
Inhalation		
LC50	Mouse	7100 mg/l, 4 Hours
		5320 mg/l, 8 Hours
		400 mg/l, 24 Hours
	Rat	26700 mg/l, 1 Hours
		12200 mg/l, 2 Hours
		8000 mg/l, 4 Hours
		12.5 mg/l/4h
Oral		
LD50	Rat	636 mg/kg

Effects of acute exposure

Eye contact	May cause irritation.
Skin contact	May cause irritation.
Inhalation	Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).
Ingestion	May cause stomach distress, nausea or vomiting.
Sensitisation	Non-hazardous by WHMIS criteria.
Chronic effects	Non-hazardous by WHMIS criteria.
Carcinogenicity	High concentrations of pigment-grade (powdered) and ultrafine titanium dioxide (titanium oxide) dust have caused respiratory tract cancer in rats exposed by inhalation and intratracheal instillation.

ACGIH Carcinogens

Acetone (CAS 67-64-1)	A4 Not classifiable as a human carcinogen.
Methyl isobutyl ketone (CAS 108-10-1)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Titanium oxide (CAS 13463-67-7)	A4 Not classifiable as a human carcinogen.
Toluene (CAS 108-88-3)	A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Methyl isobutyl ketone (CAS 108-10-1)	Volume 101 - 2B Possibly carcinogenic to humans.
Titanium oxide (CAS 13463-67-7)	Volume 47, Volume 93 - 2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	Volume 47, Volume 71 - 3 Not classifiable as to carcinogenicity to humans.

Mutagenicity	Non-hazardous by WHMIS criteria.
Reproductive effects	Non-hazardous by WHMIS criteria.
Teratogenicity	Toluene (benzene, methyl-) has caused fetotoxicity (reduced fetal weight), behavioural effects (effects on learning and memory) and hearing loss (in males). These effects have been observed in the offspring of rats exposed by inhalation to 1200 or 1800 ppm toluene. These effects were observed in the absence of maternal toxicity.

Name of Toxicologically Synergistic Products	Not available.

12. Ecological Information

Ecotoxicity Components of this product have been identified as having potential environmental concerns.

Ecotoxicological data

Components		Species	Test results
2-Propanol, 1-methoxy-, acetate (CAS 108-65-6)			
Crustacea	EC50	Daphnia	500 mg/L, 48 Hours
Acetone (CAS 67-64-1)			
Crustacea	EC50	Daphnia	13999 mg/L, 48 Hours
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	21.6 - 23.9 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours
Heptane (CAS 142-82-5)			
Aquatic			
Fish	LC50	Mozambique tilapia (Tilapia mossambica)	375 mg/l, 96 hours
Methyl isobutyl ketone (CAS 108-10-1)			
Crustacea	EC50	Daphnia	170 mg/L, 48 Hours
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	492 - 593 mg/l, 96 hours
Titanium oxide (CAS 13463-67-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	LC50	Mummichog (Fundulus heteroclitus)	> 1000 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Algae	IC50	Algae	433 mg/L, 72 Hours
Crustacea	EC50	Daphnia	7.645 mg/L, 48 Hours
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours

Persistence and degradability Not available.

Bioaccumulation/accumulation Not available.

Mobility in environmental media Not available.

Environmental effects Not available.

Aquatic toxicity Not available.

Partition coefficient

Acetone	-0.24
Heptane	4.66
Isobutane	2.76
Methane, oxybis-	0.1
Methyl isobutyl ketone	1.31
Propane	2.36
Toluene	2.73

Chemical fate information Not available.

13. Disposal Considerations

Disposal instructions Dispose in accordance with all applicable regulations.

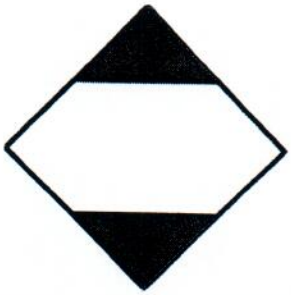
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

Transportation of Dangerous Goods (TDG - Canada)

Limited quantity

TDG



15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada DSL Challenge Substances: Listed substance

Isobutane (CAS 75-28-5)	Listed.

Canada NPRI VOCs with Additional Reporting Requirements: Mass reporting threshold/Identification Number

2-Propanol, 1-methoxy-, acetate (CAS 108-65-6)	1 tonnes
Heptane (CAS 142-82-5)	1 tonnes
Isobutane (CAS 75-28-5)	1 tonnes
Methane, oxybis- (CAS 115-10-6)	1 tonnes
Methyl isobutyl ketone (CAS 108-10-1)	1 tonnes
Propane (CAS 74-98-6)	1 tonnes
Toluene (CAS 108-88-3)	1 tonnes

Canada WHMIS Ingredient Disclosure: Threshold limits

Acetone (CAS 67-64-1)	1 %
Heptane (CAS 142-82-5)	1 %
Methyl isobutyl ketone (CAS 108-10-1)	1 %
Toluene (CAS 108-88-3)	1 %

WHMIS status Controlled

WHMIS Classification Class A - Compressed Gas, Class B - Division 5; Flammable Aerosol, Class D - Division 2A, 2B

WHMIS labeling

Inventory status

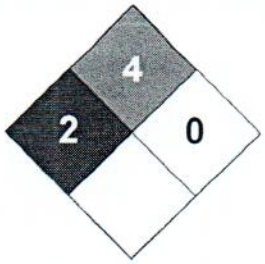
Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	*	2
FLAMMABILITY		4
PHYSICAL HAZARD		0
PERSONAL PROTECTION		X



Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Other information For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.