

Material Safety Data Sheet

4105P001_ALUMIGRIP LV 4105 10P30-5 YELLOW PRIMER

Code: 4105P001

Akzo Nobel Coatings Inc. encourages and expects you to read and understand this entire MSDS, as there is important information throughout the document. Further, Akzo Nobel Coatings Inc. expects you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

To promote safe handling, each customer or recipient should: 1) Notify its employees, agents, contractors, and others whom it knows or believes will use this material of the information contained in this MSDS and any other information regarding hazards and safety; 2) Furnish this same information to each of its customers for the product; 3) Request its customers to notify their employees, customers, and other users of the product of this information; and 4) Notify its employees, agents, contractors, and others that the precautions identified for this product and any other products with which mixtures may be created are transferable and cumulative to the mixture.

Section 1. Chemical product and company identification

Manufacturer

Akzo Nobel Coatings, Inc.
1 East Water Street
Waukegan, IL 60085
USA
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Product code : 4105P001

Product name : 4105P001_ALUMIGRIP LV 4105 10P30-5 YELLOW PRIMER

Product use : Coatings or Coatings Component

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IN CASE OF EMERGENCY (HEALTH OR SPILLS):

CHEMTREC +1 (800) 424-9300 (Inside the US)

CHEMTREC International +1 (703) 527-3887 (Outside the US, collect calls accepted)

For the most recent update to this Material Safety Data Sheet, visit our website at <http://www.akzonobel.com/aerospace>
For additional information call (847) 625-4200.

Section 2. Hazards identification

Emergency overview : WARNING!

FLAMMABLE LIQUID AND VAPOR. HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE BIRTH DEFECTS, BASED ON ANIMAL DATA.

Routes of entry : Not available.

Potential acute health effects

Inhalation : Irritating to respiratory system.

Ingestion : Toxic if swallowed.

Section 2. Hazards identification

Skin : Toxic in contact with skin. Severely irritating to the skin.

Eyes : Irritating to eyes.

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data.

Carcinogenicity : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Contains material which may cause birth defects, based on animal data.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: blood, kidneys, lungs, the nervous system, liver, peripheral nervous system, gastrointestinal tract, cardiovascular system, upper respiratory tract, skin, bones, central nervous system (CNS), eye, lens or cornea, nose/sinuses.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

Section 3. Composition/information on ingredients

United States

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	25068-38-6	10 - 25
crystalline silica respirable	14808-60-7	10 - 25
Mica-group minerals	12001-26-2	10 - 25
heptan-2-one	110-43-0	10 - 25
cyclohexanone	108-94-1	5 - 10
titanium dioxide	13463-67-7	5 - 10
pentazinc chromate octahydroxide	49663-84-5	5 - 10
strontium chromate	7789-06-2	1 - 5
4-methylpentan-2-one	108-10-1	1 - 5
silicon dioxide	7631-86-9	1 - 5
xylene	1330-20-7	1 - 5
ethylbenzene	100-41-4	0.1 - 1

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.

Section 4. First aid measures

Eye contact	: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
Skin contact	: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
Inhalation	: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
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-aiders	: 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.

Section 5. Fire-fighting measures

Flammability of the product	: Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
<u>Extinguishing media</u>	
Suitable	: Use dry chemical, CO ₂ , water spray (fog) or foam.
Not suitable	: Do not use water jet.
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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds metal oxide/oxides
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.
Special remarks on fire hazards	: Not available.
Special remarks on explosion hazards	: Not available.

Section 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe 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).
<u>Methods for cleaning up</u>	
Small spill	: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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.

Section 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. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. 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. 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. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use 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.
- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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

Product name

Exposure limits

United States

crystalline silica respirable

OSHA PEL Z3 (United States, 2/2013).

TWA: 250 MPPCF / (%SiO₂+5) 8 hours. Form: Respirable

TWA: 10 MG/M³ / (%SiO₂+2) 8 hours. Form: Respirable

ACGIH TLV (United States, 6/2013).

TWA: 0.025 mg/m³ 8 hours. Form: Respirable fraction

NIOSH REL (United States, 10/2013).

TWA: 0.05 mg/m³ 10 hours. Form: respirable dust

Mica-group minerals

ACGIH TLV (United States, 6/2013).

TWA: 3 mg/m³ 8 hours. Form: Respirable fraction

NIOSH REL (United States, 10/2013).

TWA: 3 mg/m³ 10 hours. Form: Respirable fraction

Section 8. Exposure controls/personal protection

	OSHA PEL Z3 (United States, 2/2013). TWA: 20 mppcf 8 hours.
heptan-2-one	ACGIH TLV (United States, 6/2013). TWA: 233 mg/m ³ 8 hours. TWA: 50 ppm 8 hours. NIOSH REL (United States, 10/2013). TWA: 465 mg/m ³ 10 hours. TWA: 100 ppm 10 hours. OSHA PEL (United States, 2/2013). TWA: 465 mg/m ³ 8 hours. TWA: 100 ppm 8 hours.
cyclohexanone	ACGIH TLV (United States, 6/2013). Absorbed through skin. STEL: 50 ppm 15 minutes. TWA: 20 ppm 8 hours. NIOSH REL (United States, 10/2013). Absorbed through skin. TWA: 100 mg/m ³ 10 hours. TWA: 25 ppm 10 hours. OSHA PEL (United States, 2/2013). TWA: 200 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
titanium dioxide	OSHA PEL (United States, 2/2013). TWA: 15 mg/m ³ 8 hours. Form: Total dust ACGIH TLV (United States, 6/2013). TWA: 10 mg/m ³ 8 hours.
pentazinc chromate octahydroxide	NIOSH REL (United States, 10/2013). TWA: 0.0002 mg/m ³ , (as CR) 8 hours. Form: OSHA PEL Z2 (United States, 2/2013). CEIL: 1 mg/10m ³ OSHA PEL (United States, 2/2013). TWA: 0.005 mg/m ³ , (as Cr) 8 hours. Form: ACGIH TLV (United States, 6/2013). TWA: 0.01 mg/m ³ , (measured as Cr) 8 hours.
strontium chromate	ACGIH TLV (United States, 6/2013). TWA: 0.0005 mg/m ³ , (measured as Cr) 8 hours. OSHA PEL Z2 (United States, 2/2013). CEIL: 1 mg/10m ³ OSHA PEL (United States, 2/2013). TWA: 0.005 mg/m ³ , (as Cr) 8 hours. NIOSH REL (United States, 10/2013). TWA: 0.0002 mg/m ³ , (as CR) 8 hours.
4-methylpentan-2-one	ACGIH TLV (United States, 6/2013). STEL: 75 ppm 15 minutes. TWA: 20 ppm 8 hours. NIOSH REL (United States, 10/2013). STEL: 300 mg/m ³ 15 minutes. STEL: 75 ppm 15 minutes. TWA: 205 mg/m ³ 10 hours. TWA: 50 ppm 10 hours.

Section 8. Exposure controls/personal protection

OSHA PEL (United States, 2/2013).

TWA: 410 mg/m³ 8 hours.

TWA: 100 ppm 8 hours.

silicon dioxide

NIOSH REL (United States, 10/2013).

TWA: 6 mg/m³ 10 hours.

xylene

ACGIH TLV (United States, 3/2012).

STEL: 651 mg/m³ 15 minutes.

STEL: 150 ppm 15 minutes.

TWA: 434 mg/m³ 8 hours.

TWA: 100 ppm 8 hours.

OSHA PEL (United States, 6/2010).

TWA: 435 mg/m³ 8 hours.

TWA: 100 ppm 8 hours.

ethylbenzene

ACGIH TLV (United States, 3/2012).

TWA: 20 ppm 8 hours.

NIOSH REL (United States, 6/2009).

STEL: 545 mg/m³ 15 minutes.

STEL: 125 ppm 15 minutes.

TWA: 435 mg/m³ 10 hours.

TWA: 100 ppm 10 hours.

OSHA PEL (United States, 6/2010).

TWA: 435 mg/m³ 8 hours.

TWA: 100 ppm 8 hours.

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. 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.

Engineering measures : 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.

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.

Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding/flatting should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

Personal protection

Section 8. Exposure controls/personal protection

- 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. 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.
- 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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- 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. 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.
- 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.
- Other protection** : Not available.

Section 9. Physical and chemical properties

- Physical state** : Liquid.
- Flash point** : Closed cup: 15.6°C (60.1°F)
- Auto-ignition temperature** : Not available.
- Upper/lower flammability or explosive limits**
- Upper:** : Not determined.
- Lower:** : Not determined.
- Appearance** : Not available.
- Odor** : Not available.
- Odor threshold** : Not available.
- Specific gravity** : 1.487
- pH** : Not available.
- Boiling/condensation point** : 117°C (242.6°F)

Section 9. Physical and chemical properties

Melting/freezing point	: Not available.
Vapor pressure	: Not available.
Vapor density	: Heavier than air
Density	: 12.41 lbs per gal 1.487 g/cm ³
Weight Volatiles	: 22.92% (w/w)
Volume Volatiles	: 40.01 %(v/v)
Weight Solids	: 77.08 %(w/w)
Volume Solids	: 59.99 %(v/v)
Regulatory VOC	: 2.85 lbs/gal (341 g/l) minus water and exempt solvents
Dispersibility properties	: Not dispersible in the following materials: cold water.
Evaporation rate	: Not determined.
Coefficient of water/oil distribution	: Not determined.

Section 10. Stability and reactivity

Stability	: The product is stable.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid	: Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced. Not available. Not available.

Section 11. Toxicological information

United States

Acute toxicity

Product/ingredient name	Result	Species	Dose
crystalline silica respirable	LDLo Intratracheal	Rat	250 mg/kg
	LDLo Intratracheal	Rat	>200 mg/kg
	LDLo Intravenous	Rat	90 mg/kg
	TDLo Intratracheal	Rat	150 mg/kg
	TDLo Intratracheal	Rat	100 mg/kg
	TDLo Intratracheal	Rat	50 mg/kg
	TDLo Intratracheal	Rat	30 mg/kg
	TDLo Intratracheal	Rat	25 mg/kg
	TDLo Intratracheal	Rat	15.69 mg/kg
	TDLo Intratracheal	Rat	10 mg/kg
	TDLo Intratracheal	Rat	5 mg/kg
	TDLo Intratracheal	Rat	1.5 mg/kg
	TDLo Intratracheal	Rat	1 mg/kg

Section 11. Toxicological information

heptan-2-one	TDLo Intratracheal	Rat	1250 µg/kg
	TDLo Oral	Rat	120 g/kg
	LD50 Dermal	Rabbit	12600 uL/kg
	LD50 Intraperitoneal	Rat	800 mg/kg
cyclohexanone	LD50 Oral	Rat	1670 mg/kg
	LD50 Oral	Rat	1600 mg/kg
	LD50 Dermal	Rabbit	1 mL/kg
	LD50 Intraperitoneal	Rat	1130 mg/kg
titanium dioxide	LD50 Oral	Rat	1800 mg/kg
	LD50 Oral	Rat	1620 uL/kg
	LD50 Subcutaneous	Rat	2170 mg/kg
	LDLo Intravenous	Rat	568 mg/kg
	LD Intratracheal	Rat	>100 µg/kg
	TDLo Intratracheal	Rat	5 mg/kg
	TDLo Intratracheal	Rat	1.6 mg/kg
	TDLo Intratracheal	Rat	1.25 mg/kg
4-methylpentan-2-one	TDLo Oral	Rat	60 g/kg
	LD Dermal	Rabbit	>3 g/kg
	LD50 Intraperitoneal	Rat	400 mg/kg
	LD50 Oral	Rat	4600 mg/kg
strontium chromate	LD50 Oral	Rat	2080 mg/kg
	TDLo Oral	Rat	500 mg/kg
	LD50 Intratracheal	Rat	16.6 mg/kg
	LD50 Oral	Rat	3118 mg/kg
xylene	LD50 Intraperitoneal	Rat	2459 mg/kg
	LD50 Oral	Rat	4300 mg/kg
	LD50 Subcutaneous	Rat	1700 mg/kg
	TDLo Dermal	Rabbit	4300 mg/kg
ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg
	LD50 Dermal	Rabbit	17800 uL/kg
	LD50 Oral	Rat	3500 mg/kg
	TDLo Dermal	Rat	0.08 mL/kg
	TDLo Intraperitoneal	Rat	1062 mg/kg

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
heptan-2-one	Skin - Mild irritant	Rabbit	-	24 hours	-
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin	Eyes - Mild irritant	Rabbit	-	14 milligrams	-
				100 milligrams	
	Skin - Moderate irritant	Rabbit	-	24 hours	-
				500 microliters	
cyclohexanone	Skin - Severe irritant	Rabbit	-	24 hours	-
	Eyes - Severe irritant	Rabbit	-	2 milligrams	-
				250 Micrograms	

Section 11. Toxicological information

titanium dioxide	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Human	-	48 hours	-
	Skin - Mild irritant	Rabbit	-	50 Percent 500 milligrams	-
	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-
	4-methylpentan-2-one	Eyes - Moderate irritant	Rabbit	- 24 hours 100 microliters	-
silicon dioxide	Eyes - Severe irritant	Rabbit	-	40 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	24 hours 25 milligrams	-
xylene	Eyes - Mild irritant	Rabbit	-	87 milligrams	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
	Skin - Mild irritant	Rat	-	8 hours 60 microliters	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Moderate irritant	Rabbit	-	100 Percent	-
ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams	-

Conclusion/Summary : Not available.
Skin : Not available.
Eyes : Not available.
Respiratory : Not available.

Sensitizer

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

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
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Section 11. Toxicological information

crystalline silica respirable	A2	1	-	+	Known to be a human carcinogen.	-
heptan-2-one	-	-	-	None.	-	-
cyclohexanone	A3	-	-	None.	-	-
titanium dioxide	A4	2B	-	+	-	-
pentazinc chromate octahydroxide	A1	1	-	+	Known to be a human carcinogen.	-
strontium chromate	A2	1	-	+	Known to be a human carcinogen.	+
4-methylpentan-2-one	A3	-	-	None.	-	-
xylene	A4	3	-	None.	-	-
ethylbenzene	A3	2B	-	None.	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Section 12. Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity : Not available.

Biodegradability : Not available.

Partition coefficient: n-octanol/water : Not available.

Toxicity of the products of biodegradation : Not available.

Ecotoxicological data for one or more components are known and will be made available on request.

Section 13. Disposal considerations

Waste disposal: 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. Vapor from product residues may create a highly


Section 13. Disposal considerations

flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label
DOT Classification	UN1263	PAINT	3	II	

Additional information

Reportable quantity

216.05 lbs / 98.088 kg [17.426 gal / 65.963 L]

Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

Viscous substance exemption

This class 3 material can be shipped as Packing Group III in packagings up to 30 L (100 L for cargo aircraft).

The above classification is based on a one gallon container (s) packaged and marked to comply with the requirements of 49 CFR Parts 171 through 173, as applicable. It is each shipper's responsibility to ensure each package is compatible with a selected mode of transportation and packaged in compliance with the domestic and, if applicable, international requirements for the selected mode of transport.

Section 15. Regulatory information

United States

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

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

SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Form R - Reporting requirements	strontium chromate	7789-06-2	1 - 5
	4-methylpentan-2-one	108-10-1	1 - 5
	xylene	1330-20-7	1 - 5
	ethylbenzene	100-41-4	0.1 - 1

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

Canada

Section 15. Regulatory information

WHMIS (Canada) : Class B-2: Flammable liquid
Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2A: Material causing other toxic effects (Very toxic).
Class D-2B: Material causing other toxic effects (Toxic).



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 inventory : At least one component is not listed.

EU regulations

Hazard symbol or symbols :



Risk phrases

R11- Highly flammable.
R45- May cause cancer.
R20/22- Also harmful by inhalation and if swallowed.
R48/20- Also harmful: danger of serious damage to health by prolonged exposure through inhalation.
R36/38- Irritating to eyes and skin.
R43- May cause sensitization by skin contact.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases

: S53- Avoid exposure - obtain special instructions before use.
S23- Do not breathe vapor or spray.
S24- Avoid contact with skin.
S37- Wear suitable gloves.
S61- Avoid release to the environment. Refer to special instructions/ safety data sheet.

International regulations

International lists

: **Australia inventory (AICS)**: At least one component is not listed.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: At least one component is not listed.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): At least one component is not listed.
New Zealand Inventory of Chemicals (NZIoC): At least one component is not listed.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): At least one component is not listed.

Section 16. Other information

HMIS® III

Health	*	2
Flammability		3
Physical hazards		0

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Material Safety Data Sheet

EC-275_Corrosion Resistant Cure Solution

Code: EC-275

Akzo Nobel Coatings Inc. encourages and expects you to read and understand this entire MSDS, as there is important information throughout the document. Further, Akzo Nobel Coatings Inc. expects you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

To promote safe handling, each customer or recipient should: 1) Notify its employees, agents, contractors, and others whom it knows or believes will use this material of the information contained in this MSDS and any other information regarding hazards and safety; 2) Furnish this same information to each of its customers for the product; 3) Request its customers to notify their employees, customers, and other users of the product of this information; and 4) Notify its employees, agents, contractors, and others that the precautions identified for this product and any other products with which mixtures may be created are transferable and cumulative to the mixture.

Section 1. Chemical product and company identification

Manufacturer

Akzo Nobel Coatings, Inc.
1 East Water Street
Waukegan, IL 60085
USA
+1(847) 625-4200

IN CASE OF EMERGENCY (HEALTH OR SPILLS):

CHEMTREC 1 (800) 424-9300 (Inside the US)

CHEMTREC International +1 (703) 527-3887 (Outside the US, collect calls accepted)

Product code : EC-275

Product name : EC-275_Corrosion Resistant Cure Solution

Product use : Coatings or Coatings Component

Date of issue : 2-7-2012.

Version : 1

Date of printing : 25-7-2012.

For the most recent update to this Material Safety Data Sheet, visit our website at <http://www.akzonobel.com/aerospace>
For additional information call (847) 625-4200.

Section 2. Hazards identification

Emergency overview

: DANGER!

FLAMMABLE LIQUID AND VAPOR. MAY BE FATAL IF SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN BURNS. HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE ALLERGIC RESPIRATORY REACTION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE BIRTH DEFECTS, BASED ON ANIMAL DATA.

Potential acute health effects

Inhalation

: Corrosive to the respiratory system. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion

: Very toxic if swallowed. May cause burns to mouth, throat and stomach.

Skin

: Corrosive to the skin. Causes burns. Toxic in contact with skin.

Section 2. Hazards identification

Eyes : Corrosive to eyes. Causes burns.

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Contains material which may cause birth defects, based on animal data.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: kidneys, the reproductive system, liver, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
reduced fetal weight
increase in fetal deaths
skeletal malformations

Skin : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Eyes : Adverse symptoms may include the following:
pain
watering
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Medical conditions aggravated by over-exposure : Pre-existing respiratory disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

Section 3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
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Section 3. Composition/information on ingredients

toluene	108-88-3	25 - 40
benzyl alcohol	100-51-6	10 - 25
Polyamide	37189-83-6	10 - 25
Silane	-	5 - 10
Formaldehyde, polymer with benzenamine, hydrogenated	135108-88-2	5 - 10
2-piperazin-1-ylethylamine	140-31-8	5 - 10
4,4'-isopropylidenephenol	80-05-7	5 - 10
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	1 - 5
phenol, 4-nonyl-, branched	84852-15-3	1 - 5

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.

Section 4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Call medical doctor or poison control center immediately. 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-aiders** : 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** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Section 5. Fire-fighting measures

- Flammability of the product** : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

Section 5. Fire-fighting measures

- 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.
- Special remarks on fire hazards** : Not available.
- Special remarks on explosion hazards** : Not available.

Section 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe 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).
- Methods for cleaning up**
- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.
- 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). Use spark-proof tools and explosion-proof equipment. 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.

Section 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. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure during pregnancy. 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. 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. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use 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.

Section 7. Handling and storage

- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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

Product name

toluene

Exposure limits

ACGIH TLV (United States, 1/2006). Absorbed through skin.

TWA: 188 mg/m³ 8 hour(s).

TWA: 50 ppm 8 hour(s).

NIOSH REL (United States, 6/2009).

STEL: 560 mg/m³ 15 minute(s).

STEL: 150 ppm 15 minute(s).

TWA: 375 mg/m³ 10 hour(s).

TWA: 100 ppm 10 hour(s).

OSHA PEL Z2 (United States, 11/2006).

AMP: 500 ppm 10 minute(s).

CEIL: 300 ppm

TWA: 200 ppm 8 hour(s).

benzyl alcohol

AIHA WEEL (United States, 5/2010).

TWA: 10 ppm 8 hour(s).

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. 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.

- 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.

Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding/flatting should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

Personal protection

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.

Section 8. Exposure controls/personal protection

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.

Section 9. Physical and chemical properties

Physical state : Liquid.

Flash point : Closed cup: 4.4°C (39.9°F)

Auto-ignition temperature : Not available.

upper flammability limit : Not determined.

Lower flammability limit : Not determined.

Appearance : Yellow to red.

Odor : Pungent.

Odor threshold : Not available.

Specific gravity : 0.977

pH : Not available.

Boiling/condensation point : 111°C (231.8°F)

Melting/freezing point : Not available.

Vapor pressure : Not available.

Vapor density : Heavier than air

Density : 8.15 lbs/gal 0.977 g/cm³

Evaporation rate : Not determined.

Coefficient of water/oil distribution : Not determined.

Weight Volatiles : 46.9% (w/w)

Volume Volatiles : 49.51 %(v/v)

Weight Solids : 53.10 %(w/w)

Volume Solids : 50.49 %(v/v)

VOC, minus water and exempt solvents : 3.1 lbs/gal (371 g/l)

Section 10. Stability and reactivity

Stability : The product is stable.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Materials to avoid : Reactive or incompatible with the following materials:
oxidizing materials

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

Conditions of reactivity : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials.

Section 11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose
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Section 11. Toxicological information

Silane	LD50 Oral	Rat	2413 mg/kg
	LD50 Oral	Rat	7460 uL/kg
toluene	LDLo Dermal	Rabbit	16 mL/kg
	LD50 Dermal	Rabbit	14100 uL/kg
	LD50 Intraperitoneal	Rat	1332 mg/kg
	LD50 Intravenous	Rat	1960 mg/kg
	LD50 Oral	Rat	636 mg/kg
	LD50 Unreported	Rat	6900 mg/kg
	LDLo Intraperitoneal	Rat	2.5 mL/kg
	TDLo Dermal	Rat	26.4 mg/kg
	TDLo Intraperitoneal	Rat	1 g/kg
	TDLo Intraperitoneal	Rat	1 gm/kg
	TDLo Intraperitoneal	Rat	900 mg/kg
	TDLo Intraperitoneal	Rat	750 mg/kg
	TDLo Intraperitoneal	Rat	600 mg/kg
	TDLo Intraperitoneal	Rat	250 mg/kg
	TDLo Oral	Rat	1200 mg/kg
	TDLo Oral	Rat	1000 mg/kg
	TDLo Oral	Rat	800 mg/kg
	TDLo Oral	Rat	650 mg/kg
benzyl alcohol	TDLo Oral	Rat	400 mg/kg
	LD50 Dermal	Rabbit	2000 mg/kg
	LD50 Dermal	Rabbit	2000 mg/kg
	LD50 Intra-arterial	Rat	441 mg/kg
	LD50 Intraperitoneal	Rat	400 mg/kg
	LD50 Intravenous	Rat	53 mg/kg
	LD50 Oral	Rat	1.5 mL/kg
	LD50 Oral	Rat	1660 mg/kg
	LD50 Oral	Rat	1230 mg/kg
	LD50 Oral	Rat	1230 mg/kg
	LDLo Intraperitoneal	Rat	650 mg/kg
	LDLo Subcutaneous	Rat	1700 mg/kg
	TDLo Intraperitoneal	Rat	514 mg/kg
	LC50 Inhalation Vapor	Rat	1000 ppm
	LC50 Inhalation Vapor	Rat	1000 ppm
bisphenol A	LD50 Dermal	Rabbit	3 mL/kg
	LD50 Intraperitoneal	Rat	200 mg/kg
	LD50 Oral	Rat	4240 mg/kg
	LD50 Oral	Rat	3250 mg/kg
	LD50 Oral	Rat	1200 mg/kg
	LDLo Oral	Rat	2500 mg/kg
	TDLo Intraperitoneal	Rat	150 mg/kg
	TDLo Intraperitoneal	Rat	37.5 mg/kg
	TDLo Oral	Rat	1000 mg/kg
	TDLo Subcutaneous	Rat	400 mg/kg
	TDLo Subcutaneous	Rat	5.9 mg/kg
	LD50 Dermal	Rabbit	880 uL/kg
2-piperazin-1-ylethylamine	LD50 Oral	Rat	2140 uL/kg
4-nonylphenol, branched	LD50 Oral	Rat	1882 mg/kg
	LD50 Oral	Rat	1300 mg/kg
	LDLo Dermal	Rabbit	3160 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol	TDLo Oral	Rat	10 mg/kg
	LD50 Dermal	Rat	1280 mg/kg
	LD50 Oral	Rat	2169 mg/kg
	LD50 Oral	Rat	1673 mg/kg
	LD50 Oral	Rat	1200 mg/kg

Not available.

Not available.

Section 11. Toxicological information

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Silane	Eyes - Severe irritant	Rabbit	-	15 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 milligrams	-
	Eyes - Mild irritant	Rabbit	-	870 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Pig	-	24 hours 250 microliters	-
	Skin - Mild irritant	Rabbit	-	435 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
benzyl alcohol	Skin - Mild irritant	Man	-	48 hours 16 milligrams	-
	Skin - Moderate irritant	Pig	-	100 Percent	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
bisphenol A	Eyes - Severe irritant	Rabbit	-	24 hours 250 Micrograms	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	250 milligrams	-
2-piperazin-1-ylethylamine	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 5 milligrams	-
4-nonylphenol, branched	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 milligrams	-
2,4,6-tris(dimethylaminomethyl)phenol	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms	-
	Skin - Mild irritant	Rat	-	0.025 Milliliters	-
	Skin - Severe irritant	Rat	-	0.25 Milliliters	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 milligrams	-

Carcinogenicity

Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
toluene	A4	3	-	None.	-	-
2-piperazin-1-ylethylamine	-	-	-	None.	-	-
bisphenol A	-	-	-	None.	-	-

Mutagenicity

Not available.

Section 11. Toxicological information

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Not available.

Section 12. Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity : Not available.

Biodegradability : Not available.

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

Ecotoxicological data for one or more components are known and will be made available on request.

Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. 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. 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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

The transportation description provided below is based on a one gallon container shipped within the United States, by highway only.

UN number	Proper shipping name	Class	Packing group	Additional information
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UN1263	PAINT RELATED MATERIAL	3	II	
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Section 15. Other Regulatory Information and Pictograms

United States

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

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

SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Form R - Reporting requirements	toluene	108-88-3	25 - 40
	bisphenol A	80-05-7	5 - 10

Section 15. Other Regulatory Information and Pictograms

California Prop. 65

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

Canada

WHMIS (Canada)

: Class B-2: Flammable liquid
 Class D-1A: Material causing immediate and serious toxic effects (Very toxic).
 Class D-2A: Material causing other toxic effects (Very toxic).
 Class D-2B: Material causing other toxic effects (Toxic).
 Class E: Corrosive material



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 inventory

: At least one component is not listed.

International regulations

International lists

: **Australia inventory (AICS)**: At least one component is not listed.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: At least one component is not listed.
Korea inventory: At least one component is not listed.
New Zealand Inventory of Chemicals (NZIoC): At least one component is not listed.
Philippines inventory (PICCS): At least one component is not listed.

Section 16. Other information

Health	*	2
Flammability		3
Physical hazards		0

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Material Safety Data Sheet

TR-115_Exempt Solvent Reducer

Code: TR-115

Akzo Nobel Coatings Inc. encourages and expects you to read and understand this entire MSDS, as there is important information throughout the document. Further, Akzo Nobel Coatings Inc. expects you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

To promote safe handling, each customer or recipient should: 1) Notify its employees, agents, contractors, and others whom it knows or believes will use this material of the information contained in this MSDS and any other information regarding hazards and safety; 2) Furnish this same information to each of its customers for the product; 3) Request its customers to notify their employees, customers, and other users of the product of this information; and 4) Notify its employees, agents, contractors, and others that the precautions identified for this product and any other products with which mixtures may be created are transferable and cumulative to the mixture.

Section 1. Chemical product and company identification

Manufacturer

Akzo Nobel Coatings, Inc.
1 East Water Street
Waukegan, IL 60085
USA
+1(847) 625-4200

IN CASE OF EMERGENCY (HEALTH OR SPILLS):

CHEMTREC 1 (800) 424-9300 (Inside the US)

CHEMTREC International +1 (703) 527-3887 (Outside the US, collect calls accepted)

Product code : TR-115

Product name : TR-115_Exempt Solvent Reducer

Product use : Coatings or Coatings Component

Date of issue : 25-6-2012.

Version : 1

Date of printing : 27-6-2012.

For the most recent update to this Material Safety Data Sheet, visit our website at <http://www.akzonobel.com/aerospace>
For additional information call (847) 625-4200.

Section 2. Hazards identification

Emergency overview

: DANGER!

EXTREMELY FLAMMABLE LIQUID AND VAPOR. FLAMMABLE. VAPOR MAY CAUSE FLASH FIRE. HARMFUL IF SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE BIRTH DEFECTS, BASED ON ANIMAL DATA.

Potential acute health effects

Inhalation

: Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion

: Toxic if swallowed.

Skin

: Harmful in contact with skin. Severely irritating to the skin.

Eyes

: Irritating to eyes.

Section 2. Hazards identification

Potential chronic health effects

- Chronic effects** : Contains material that may cause target organ damage, based on animal data.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : Contains material which may cause birth defects, based on animal data.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Target organs** : Contains material which may cause damage to the following organs: blood, kidneys, liver, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Eyes** : Adverse symptoms may include the following:
pain or irritation
watering
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

NOTICE: Reports have associated repeated and prolonged OVEREXPOSURE to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents of this package may be harmful or fatal.

See toxicological information (Section 11)

Section 3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>% by weight</u>
acetone	67-64-1	70 - 100
parachlorobenzotrifluoride	98-56-6	10 - 25

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.

Section 4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- 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-aiders** : 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.

Section 5. Fire-fighting measures

- Flammability of the product** : Extremely flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
 - Not suitable** : Do not use water jet.
- 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
carbonyl halides
- 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.
- Special remarks on fire hazards** : Not available.
- Special remarks on explosion hazards** : Not available.

Section 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Section 6. Accidental release measures

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 for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

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). Use spark-proof tools and explosion-proof equipment. 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.

Section 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. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure during pregnancy. 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. 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. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use 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.

Storage : Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. 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

Product name

acetone

Exposure limits

ACGIH TLV (United States, 2/2010).

STEL: 1782 mg/m³ 15 minute(s).

STEL: 750 ppm 15 minute(s).

TWA: 1188 mg/m³ 8 hour(s).

TWA: 500 ppm 8 hour(s).

NIOSH REL (United States, 6/2009).

TWA: 590 mg/m³ 10 hour(s).

TWA: 250 ppm 10 hour(s).

OSHA PEL (United States, 6/2010).

TWA: 2400 mg/m³ 8 hour(s).

TWA: 1000 ppm 8 hour(s).

Consult local authorities for acceptable exposure limits.

Section 8. Exposure controls/personal protection

- 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. 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.
- 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.
- Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding/flattening should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.
- Personal protection**
- 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.

Section 9. Physical and chemical properties

- Physical state** : Liquid.
- Flash point** : Closed cup: -17.2°C (1°F)
- Auto-ignition temperature** : Not available.
- upper flammability limit** : Not determined.
- Lower flammability limit** : Not determined.
- Appearance** : Colorless.
- Odor** : Solvent.
- Odor threshold** : Not available.
- Specific gravity** : 0.881
- pH** : Not available.
- Boiling/condensation point** : 56°C (132.8°F)
- Melting/freezing point** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Heavier than air

Section 9. Physical and chemical properties

Density	: 7.35 lbs/gal 0.881 g/cm ³
Evaporation rate	: Not determined.
Coefficient of water/oil distribution	: Not determined.
Weight Volatiles	: 100% (w/w)
Volume Volatiles	: 100 % (v/v)
Weight Solids	: 0.00 % (w/w)
Volume Solids	: 0.00 % (v/v)
VOC, minus water and exempt solvents	: 0 lbs/gal (0 g/l)

Section 10. Stability and reactivity

Stability	: The product is stable.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid	: Highly reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Conditions of reactivity	: Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and oxidizing materials.

Section 11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose
acetone	LD50 Intravenous	Rat	5500 mg/kg
	LD50 Oral	Rat	5800 mg/kg
	LDLo Dermal	Rabbit	20 mL/kg
	LDLo Intraperitoneal	Rat	500 mg/kg
	TDLo Intraperitoneal	Rat	1452 mg/kg
4-chloro- α,α,α -trifluorotoluene	TDLo Oral	Rat	5 mL/kg
	LD50 Dermal	Rabbit	>2700 mg/kg
	LD50 Dermal	Rabbit	>2700 mg/kg
	LD50 Oral	Rat	13 g/kg
	LD50 Oral	Rat	>6800 mg/kg
	LD50 Oral	Rat	>6800 mg/kg
	LC50 Inhalation Vapor	Rat	22000 mg/m ³
	LC50 Inhalation Vapor	Rat	22000 mg/m ³

Not available.

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
acetone	Eyes - Mild irritant	Human	-	186300 parts per million	-
	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-

Section 11. Toxicological information

Carcinogenicity

Not available.

Classification

Product/ingredient name

acetone

ACGIH

A4

IARC

-

EPA

-

NIOSH

None.

NTP

-

OSHA

-

Mutagenicity

Not available.

Teratogenicity

Conclusion/Summary

: Not available.

Reproductive toxicity

Not available.

Section 12. Ecological information

Environmental effects

: No known significant effects or critical hazards.

Aquatic ecotoxicity

: Not available.

Biodegradability

: Not available.

:

Other adverse effects

: No known significant effects or critical hazards.

Ecotoxicological data for one or more components are known and will be made available on request.

Section 13. Disposal considerations

Waste disposal

: The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. 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. 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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

The transportation description provided below is based on a one gallon container shipped within the United States, by highway only.

UN number	Proper shipping name	Class	Packing group	Additional information
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UN1263	P A I N T R E L A T E D M A T E R I A L	3	II	
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Section 15. Other Regulatory Information and Pictograms

United States

OSHA/HCS status

: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

United States inventory (TSCA 8b)

: All components are listed or exempted.

California Prop. 65

No products were found.

Canada

WHMIS (Canada)

: Class B-2: Flammable liquid
Class D-1B: Material causing immediate and serious toxic effects (Toxic).
Class D-2B: Material causing other toxic effects (Toxic).



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 inventory

: All components are listed or exempted.

International regulations

International lists

: **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

Section 16. Other information

Health	*	2
Flammability		3
Physical hazards		0

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.