



Material Safety Data Sheet

CA-41B_Curing Solution for 467-9

Code: CA-41B

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 : CA-41B

Product name : CA-41B_Curing Solution for 467-9

Product use : Coatings or Coatings Component

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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 EYE AND SKIN BURNS. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY REACTION. 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 | : Toxic by inhalation. Severely irritating 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. |

Section 2. Hazards identification

- Skin** : Corrosive to the skin. Causes burns. Harmful in contact with skin.
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, lungs, the reproductive system, liver, peripheral nervous system, gastrointestinal tract, 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.

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

Name

diethylenetriamine
butanone
n-butyl acetate
toluene

	CAS number	% by weight
	111-40-0	40 - 70
	78-93-3	40 - 70
	123-86-4	5 - 10
	108-88-3	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

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.
- 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

<u>Product name</u>	<u>Exposure limits</u>
2,2'-iminodiethylamine	<p>ACGIH TLV (United States, 2/2010). Absorbed through skin. TWA: 4.2 mg/m³ 8 hour(s). TWA: 1 ppm 8 hour(s).</p> <p>NIOSH REL (United States, 6/2009). Absorbed through skin. TWA: 4 mg/m³ 10 hour(s). TWA: 1 ppm 10 hour(s).</p>
butanone	<p>ACGIH TLV (United States, 2/2010). STEL: 885 mg/m³ 15 minute(s). STEL: 300 ppm 15 minute(s). TWA: 590 mg/m³ 8 hour(s). TWA: 200 ppm 8 hour(s).</p> <p>NIOSH REL (United States, 6/2009). STEL: 885 mg/m³ 15 minute(s). STEL: 300 ppm 15 minute(s). TWA: 590 mg/m³ 10 hour(s). TWA: 200 ppm 10 hour(s).</p> <p>OSHA PEL (United States, 6/2010). TWA: 590 mg/m³ 8 hour(s). TWA: 200 ppm 8 hour(s).</p>
n-butyl acetate	<p>ACGIH TLV (United States, 2/2010). STEL: 200 ppm 15 minute(s). TWA: 150 ppm 8 hour(s).</p> <p>NIOSH REL (United States, 6/2009). STEL: 950 mg/m³ 15 minute(s). STEL: 200 ppm 15 minute(s). TWA: 710 mg/m³ 10 hour(s). TWA: 150 ppm 10 hour(s).</p> <p>OSHA PEL (United States, 6/2010). TWA: 710 mg/m³ 8 hour(s). TWA: 150 ppm 8 hour(s).</p>
toluene	<p>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).</p> <p>OSHA PEL Z2 (United States, 11/2006). AMP: 500 ppm 10 minute(s). CEIL: 300 ppm TWA: 200 ppm 8 hour(s).</p> <p>ACGIH TLV (United States, 2/2010). TWA: 20 ppm 8 hour(s).</p>

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.

Section 8. Exposure controls/personal protection

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. |
| 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: -3.9°C (25°F)	
Auto-ignition temperature	: Not available.	
upper flammability limit	: Not determined.	
Lower flammability limit	: Not determined.	
Appearance	: Blue.	
Odor	: Pungent.	
Odor threshold	: Not available.	
Specific gravity	: 0.879	
pH	: Not available.	
Boiling/condensation point	: 80°C (176°F)	
Melting/freezing point	: Not available.	
Vapor pressure	: Not available.	
Vapor density	: Heavier than air	
Density	7.34 lbs/gal	0.879 g/cm ³
Evaporation rate	: Not determined.	
Coefficient of water/oil distribution	: Not determined.	
Weight Volatiles	: 99.92% (w/w)	
Volume Volatiles	: 99.95 % (v/v)	
Weight Solids	: 0.08 % (w/w)	
Volume Solids	: 0.05 % (v/v)	
VOC, minus water and exempt solvents	: 7.79 lbs/gal (934 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	: Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge. Flammable in the presence of the following materials or conditions: oxidizing materials.

Section 11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose
2,2'-iminodiethylamine	LD50 Dermal	Rabbit	1090 mg/kg
	LD50 Intraperitoneal	Rat	74 mg/kg
	LD50 Oral	Rat	1080 mg/kg
	LD50 Unreported	Rat	970 mg/kg
butanone	LD50 Dermal	Rabbit	6480 mg/kg
	LD50 Intraperitoneal	Rat	607 mg/kg
	LD50 Oral	Rat	2737 mg/kg
n-butyl acetate	TDLo Intraperitoneal	Rat	361 mg/kg
	LD50 Dermal	Rabbit	>17600 mg/kg
	LD50 Oral	Rat	10768 mg/kg
toluene	LC50 Inhalation Vapor	Rat	390 ppm
	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	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
	TDLo Oral	Rat	400 mg/kg

Not available.

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2,2'-iminodiethylamine	Skin - Moderate irritant	Rabbit	-	500 milligrams	-
butanone	Skin - Mild irritant	Rabbit	-	24 hours 14 milligrams	-
n-butyl acetate	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-

Section 11. Toxicological information

toluene	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
	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	-

Carcinogenicity

Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
2,2'-iminodiethylamine	-	-	-	None.	-	-
butanone	-	-	-	None.	-	-
n-butyl acetate	A4	-	-	None.	-	-
toluene	A4	-	-	None.	-	-

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

Section 13. Disposal considerations

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
UN3469	P A I N T R E L A T E D MATERIAL, FLAMMABLE, CORROSIVE	3(8)	II	

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

Form R - Reporting requirements	Product name	CAS number	Concentration
	: butanone	78-93-3	40 - 70
	toluene	108-88-3	1 - 5

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-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).
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 : 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.