



Material Safety Data Sheet

Version : 3 Date of issue : 2/19/2008.

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.
5555 Spalding Drive
Norcross, GA 30092
USA 1-800-618-1010

Canadian Supplier

Akzo Nobel Coatings Ltd.
110 Woodbine Downs Blvd.
Unit #4 Etobicoke, Ontario
Canada M9W 5S6
1-800-618-1010

IN CASE OF EMERGENCY (HEALTH OR SPILLS):

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

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

Product code : 389348

Product name : POLYURETHANE HS 2K LF ORANGE

MSDS # : 389348WAN100EN32524

For the most recent update to this Material Safety Data Sheet, visit our website at <http://www.akzonobelcarrefinishes.net>
For additional information call our the Akzo Nobel Car Refinishes Techline at 1-800-618-1010.

Section 2. Hazardous ingredients

| Name | CAS # | % by weight | Vapor pressure | Exposure Limits (ACGIH-TLV/OSHA-PEL) |
|--------------------------------|------------|-------------|-------------------------------|---|
| butyl acetate | 123-86-4 | 35 - 45 | 1.3 kPa (10 mm Hg) (at 20°C) | ACGIH TLV (United States). TWA: 150 ppm 8 hour/hours. STEL: 200 ppm 15 minute/minutes. OSHA PEL (United States). TWA: 150 ppm 8 hour/hours. |
| aluminum | 7429-90-5 | 10 - 25 | Not available. | Not available. |
| xylene, mixed isomers | 1330-20-7 | 5 - 10 | 0.7 kPa (5.1 mm Hg) (at 20°C) | ACGIH TLV (United States). TWA: 100 ppm 8 hour/hours. STEL: 150 ppm 15 minute/minutes. OSHA PEL (United States). TWA: 100 ppm 8 hour/hours. |
| mixed hydrocarbons | 64742-48-9 | 5 - 10 | Not available. | ACGIH TLV (United States). TWA: 300 ppm 8 hour/hours. |
| petroleum distillate (naphtha) | 8030-30-6 | 5 - 10 | Not available. | ACGIH TLV (United States). TWA: 400 ppm 8 hour/hours. OSHA PEL (United States). TWA: 100 ppm 8 hour/hours. |
| melamine-formaldehyde resin | | 1 - 5 | Not available. | Not available. |
| butanol | 71-36-3 | 1 - 5 | 0.7 kPa (5.5 mm Hg) (at 20°C) | ACGIH TLV (United States). TWA: 20 ppm 8 hour/hours. OSHA PEL (United States). TWA: 100 ppm 8 hour/hours. |
| 2-METHYL 1-BUTYL ACETATE | 624-41-9 | 1 - 5 | Not available. | ACGIH TLV (United States). TWA: 50 ppm 8 hour/hours. STEL: 100 ppm 15 minute/minutes. |
| ethyl benzene | 100-41-4 | 1 - 5 | 0.9 kPa (7.1 | ACGIH TLV (United States). |

| | | | | |
|--------------------------------|------------|-------|----------------------------------|---|
| | | | mm Hg) (at 20°C) | TWA: 100 ppm 8 hour/hours. STEL: 125 ppm 15 minute/minutes. |
| aromatic solvent | | 1 - 5 | Not available. | OSHA PEL (United States). TWA: 100 ppm 8 hour/hours. |
| butoxyethoxyethanol | 112-34-5 | 1 - 5 | 0.004 kPa (0.03 mm Hg) (at 20°C) | ACGIH TLV (United States). TWA: 100 ppm 8 hour/hours. Not available. |
| methoxy-methyl ethoxy propanol | 34590-94-8 | 1 - 5 | Not available. | ACGIH TLV (United States). Skin TWA: 100 ppm 8 hour/hours. STEL: 150 ppm 15 minute/minutes. OSHA PEL (United States). Skin TWA: 100 ppm 8 hour/hours. |

Section 3. Hazards identification

Emergency overview : Warning!

Potential acute health effects

Eyes : Irritating to eyes.

Other effects of eye contact may include : eye damage, redness, swelling, tearing,

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

Other effects of skin contact may include: dehydration, dermatitis, discoloration,
Effects due to absorption through skin may include: CNS effects, dizziness, drowsiness, fatigue,
headache, narcosis, nausea, vomiting, weakness,

Inhalation : Irritating to respiratory system.

Other effects of inhalation may include: anesthesia, chest pain, CNS effects, confusion, cough,
depression, dizziness, drowsiness, fatigue, headache, incoordination, narcosis, nausea, pulmonary
edema, shortness of breath, tremors, vomiting, weakness,

Ingestion : Toxic if swallowed.

Other effects of ingestion may include : CNS effects, diarrhea, dizziness, drowsiness, fatigue,
gastroenteritis, headache, irritation, nausea, vomiting, weakness,

Potential chronic health effects : **CARCINOGENIC EFFECTS:** Classified 2B (Possible for humans.) by IARC [ethyl benzene].
MUTAGENIC EFFECTS: None by OSHA standard.

TERATOGENIC EFFECTS: Classified POSSIBLE for humans [ethyl benzene]. Classified POSSIBLE for humans [n-methyl pyrrolidone].

Contains material which may cause damage to the following organs: blood, kidneys, lungs, the reproductive system, liver, heart, skin, central nervous system (CNS).

This product under certain conditions could release formaldehyde in sufficient quantities to require monitoring under OSHA regulations. Formaldehyde is a known carcinogen.

Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.

Effects of Overexposure: HARMFUL IF SWALLOWED.
CAUSES SEVERE SKIN IRRITATION.
CAUSES RESPIRATORY TRACT AND EYE IRRITATION.
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.

MAY BE HARMFUL IF ABSORBED THROUGH SKIN.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LUNGS, REPRODUCTIVE SYSTEM, LIVER, HEART, SKIN, CENTRAL NERVOUS SYSTEM.
POSSIBLE CANCER HAZARD, CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Do not ingest. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Risk of cancer depends on duration and level of exposure.

Medical conditions aggravated by overexposure : pulmonary conditions, skin disorders, liver conditions, kidney conditions, respiratory conditions, neurological disorders, reproductive system disorders,

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 4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if symptoms occur.
- Skin contact** : Get medical attention immediately if symptoms occur. Flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Inhalation** : Get medical attention immediately if symptoms occur. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Ingestion** : Get medical attention immediately. Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Medical conditions aggravated by overexposure** : pulmonary conditions, skin disorders, liver conditions, kidney conditions, respiratory conditions, neurological disorders, reproductive system disorders,

Section 5. Fire fighting measures

- Flammability of the product** : Flammable.
- Auto-ignition temperature** : The lowest known value is 204.45 to 227.75°C (400 to 441.9°F) (butoxyethoxyethanol).
- Flash points** : Closed cup: 24°C (76°F).
- Flammable limits** : Not available.
- Products of combustion** : These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂ etc.). Some metallic oxides.
- Fire Hazards in Presence of Various Substances/Conditions** : 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.
Vapors are heavier than air and may spread along floors. Vapor may travel a considerable distance to source of ignition and flash back.
- Explosion Hazards in Presence of Various Substances/Conditions** : Not available.
- Fire-fighting media and instructions** : SMALL FIRE: Use dry chemical powder.
LARGE FIRE: Use alcohol foam or water spray or fog. Cool containers with water jet in order to prevent pressure build-up, auto-ignition or explosion.
- Protective clothing (fire)** : Be sure to use an approved/certified respirator or equivalent.

Section 6. Accidental release measures

- Spill and Leak** : Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment. Do not touch or walk through spilled material.
If emergency personnel are unavailable, contain spilled material. For small spills, add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion-proof means to transfer material to a sealable, appropriate container for disposal. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.
Dispose of according to Section 13. If necessary, report spill to applicable government agency.

Section 7. Handling and storage

- Handling** : Do not ingest. Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling.
Use ventilation to remove decomposition products formed during welding or flame cutting of surfaces coated with this product.
- Storage** : Store in an approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).
- Other Precautions** : All precautions must be observed. Empty container may retain product residues.

Section 8. Exposure controls, personal protection

Selection of personal protective equipment (PPE) is to be established by the employer performing a PPE hazard assessment. In the U.S.A, OSHA requires completion of a documented PPE hazard assessment as described in 29 CFR 1910.132.

- Engineering controls** : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses.

Body : Synthetic apron.

Respiratory : Wear appropriate respirator when ventilation is inadequate.

Hands : Impervious gloves.

Barrier creams are not a replacement for full physical protection

Feet : Wear appropriate protection.

Protective clothing (pictograms) :



HYGIENIC PRACTICES: Good personal hygiene practices are required at all times when handling chemicals. These practices include, but are not limited to, washing when safety equipment is removed, at the end of each shift or when going on breaks and especially if contamination occurs.

Section 9. Physical and chemical properties

- Physical state and Appearance** : Liquid.
- Boiling/condensation point** : 56°C (132.8°F)
- Flash points** : Closed cup: 24°C (76°F).
- Specific gravity** : 0.958 (Water = 1)
- Vapor pressure** : The highest known value is 1.3 kPa (10 mm Hg) (at 20°C) (butyl acetate).
- Vapor density** : Heavier than air
- Volatile Content** : 71% (w/w)
- Evaporation rate** : The highest known value is 1 (butyl acetate) compared with butyl acetate
- VOC** : 696 (g/l).

Section 10. Stability and reactivity

- Stability and reactivity** : The product is stable.
- Conditions of instability** : temperatures above 120 degrees, open flame, sparks, light, moisture, allow air blanket above liquid, dusty conditions, drying out,
- Incompatibility with various substances** : Reactive or incompatible with the following materials: oxidizing materials, acids, alkalis and moisture.
- Hazardous Reaction Products** : Possibly hazardous, short-term degradation products are not likely. However, long-term degradation products may arise.
- Hazardous polymerization** : Will not undergo hazardous polymerization.

Section 11. Toxicological information

| | | | | |
|--------------------------------|------|---|------------|------------|
| butyl acetate | LD50 | 10768 mg/kg | Oral | Rat |
| | LD50 | 8770 mg/kg | Dermal | Guinea pig |
| | LC50 | 390 ppm (4 hour/hours) | Inhalation | Rat |
| xylene, mixed isomers | LD50 | 4300 mg/kg | Oral | Rat |
| | LD50 | >1700 mg/kg | Dermal | Rabbit |
| | LC50 | 5000 ppm (4 hour/hours) | Inhalation | Rat |
| mixed hydrocarbons | LD50 | >5000 mg/kg | Oral | Rat |
| | LD50 | >3160 mg/kg | Dermal | Rabbit |
| petroleum distillate (naphtha) | LD50 | >5000 mg/kg | Oral | Rat |
| | LD50 | >3000 mg/kg | Dermal | Rabbit |
| butanol | LD50 | 790 mg/kg | Oral | Rat |
| | LD50 | 3400 mg/kg | Dermal | Rabbit |
| | LC50 | 8000 ppm (4 hour/hours) | Inhalation | Rat |
| ethyl benzene | LD50 | 3500 mg/kg | Oral | Rat |
| | LD50 | 15486 mg/kg | Dermal | Rabbit |
| | LC50 | 55000 mg/m ³ (2 hour/hours) | Inhalation | Rat |
| aromatic solvent | LD50 | >2000 mg/kg | Dermal | Rat |
| | LC50 | >590 mg/m ³ (4 hour/hours) | Inhalation | Rat |
| butoxyethoxyethanol | LD50 | 4500 mg/kg | Oral | Rat |
| | LD50 | 2700 mg/kg | Dermal | Rabbit |
| methoxy-methyl ethoxy propanol | LD50 | 5130 mg/kg | Oral | Rat |
| | LD50 | 9500 mg/kg | Dermal | Rabbit |

Section 12. Ecological information




- Products of degradation** : These products are carbon oxides (CO, CO₂) and water, nitrogen oxides (NO, NO₂ etc.). Some metallic oxides.
- Toxicity of the products of biodegradation** : The products of degradation are less toxic than the product itself.

Section 13. Disposal considerations

- Waste information** : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. 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.
- Empty containers should be recycled or disposed through an approved waste management facility.

Consult your local or regional authorities.

Section 14. Transport information

| Regulatory information | UN number | Proper shipping name | Class | Packing group | Label | Additional information |
|---------------------------|-----------|---|-------|---------------|---|------------------------|
| DOT Classification | | Consult your shipping specialist or transport agency for appropriate assignment of the DOT information. | | | | |
| TDG Classification | UN1263 | PAINT | 3 | III |  | - |
| IMDG Class | UN1263 | PAINT | 3 | III |  | - |
| IATA-DGR Class | UN1263 | PAINT | 3 | III |  | - |

Marine pollutant : No.

Section 15. Regulatory information

U.S. Federal regulations : All components in this product have been verified as being on the TSCA Inventory.
 OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
(HAPS) : Clean Air Act (CAA) 112 regulated toxic substances: toluene; ethyl benzene; xylene, mixed isomers; formaldehyde; butoxyethoxyethanol; cumene

| SARA 313 TRI - Reporting requirements | Product name | CAS number | % by weight |
|--|-----------------------|------------|-------------|
| | aluminum | 7429-90-5 | 20.02 |
| | xylene, mixed isomers | 1330-20-7 | 5.68 |
| | butanol | 71-36-3 | 2.60 |
| | ethyl benzene | 100-41-4 | 1.33 |
| | butoxyethoxyethanol | 112-34-5 | 1.13 |

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

International regulations

International lists : This product contains one or more components that are NOT listed on the CEPA DSL inventory.

Section 16. Other information

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

| | | |
|---------------------|---|---|
| Health | * | 2 |
| Flammability | | 3 |
| Physical Hazard | | 0 |
| Personal protection | | |

(HMIS® III is a registered trademark of the National Paint and Coatings Association)

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).

Notice to reader

The absence of a positive finding indicates that we believe, to the best of our knowledge, that the negative is true.

Do not handle until the manufacturer's safety precautions have been read and understood. Regulations require that all employees be trained on Material Safety Data Sheets for all products with which they come in contact.

Disclaimer: While Akzo Nobel Coatings believes that the data contained herein are accurate and derived from qualified sources, the data are not to be taken as a warranty or representation for which Akzo Nobel Coatings assumes legal responsibility. They are offered solely for your consideration, investigation and verification. Any use of these data and information must be determined by the user to be in accordance with applicable Federal, State, Provincial and local laws and regulations.