1. Substance/preparation and company identification

Company
BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS Number	Content (weight%)
aliphatic polyisocyanate PEL/TLV not established	28182-81-2	65 - 75
methyl amyl ketone OSHA PEL 100 ppm 465 mg/m3 ACGIH TWA 50 ppm	110-43-0	25 - 35

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3. HAZARD IDENTIFICATION

HMIS III RATING
Health: 3¤ Flammability: 2 Physical hazard: 0

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

EMERGENCY OVERVIEW

WARNING
COMBUSTIBLE LIQUID
HARMFUL IF INHALED
CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE
CAN CAUSE LIVER DAMAGE
CAN CAUSE KIDNEY DAMAGE
MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION
CONTAINS MATERIAL THAT MAY CAUSE ALLERGIC SKIN REACTION
SENSITIZER
INGESTION MAY CAUSE GASTRIC DISTURBANCES

POTENTIAL HEALTH EFFECTS

Primary routes of exposure:

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute toxicity:
Inhalation may cause CNS depression, blurred vision, dizziness and drowsiness.
Overexposure may cause nausea and vomiting.
Inhalation causes headache and nausea.
Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

Information on: 2-heptanone
Inhalation of 2-heptanone (methyl amyl ketone) may lead to upper respiratory tract irritation and central nervous system effects like headache, nausea and dizziness.

Information on: isocyanate
Inhalation of isocyanate vapors or mists at concentrations above the suggested exposure level can irritate the mucous membranes of the respiratory tract causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced pulmonary function (breathing obstruction). Persons with preexisting nonspecific bronchial hypersensitivity may respond to concentrations below the recommended exposure level with similar symptoms as well as an asthma attack. Exposure well above the PEL/TLV may lead to eye irritation, headache, bronchitis, asthma, emphysema or pulmonary edema. These effects are usually reversible. Chemical or hypersensitive pneumonitis with flu-like symptoms has been reported. Gastrointestinal symptoms include nausea, vomiting and abdominal pain. Vomiting may cause aspiration into the lungs resulting in chemical pneumonitis. Asthma and other respiratory disorders (bronchitis, emphysema, hypersensitivity), skin allergies and eczema may be aggravated upon exposure.

Irritation:
Skin contact may result in irritation, defatting and dermatitis.
Vapors cause irritation to the respiratory tract and the eyes.
Prolonged inhalation of product vapor can result in irritation of the mucous membranes.

Information on: isocyanate
Isocyanates react with skin protein and moisture and can cause irritation. Symptoms of skin irritation may be reddening, swelling, rash, scaling, or blistering. Some persons may develop skin sensitization from skin contact. Eye contact with liquid, aerosols, or vapors of isocyanates are irritating and can cause tearing, reddening, and swelling accompanied by a stinging sensation and possibly a feeling like that of a fine dust in the eyes.

Medical conditions aggravated by overexposure:
The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing.
Persons with asthmatic conditions, chronic bronchitis, other

chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates.
Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended.
Medical supervision of all employees who handle or come into contact with isocyanates is recommended.

Repeated dose toxicity:
Information on: 2-heptanone
Repeated inhalation exposures to 2-heptanone (methyl amyl ketone) have been known to produce neurological effects in experimental animals at 1000 ppm. Repeated oral exposures in rats have been known to produce liver and kidney effects at 500 mg/kg/day.
Information on: isocyanate
Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic symptoms of the lower respiratory tract (asthma-like), including wheezing, shortness of breath and difficulty breathing. Subsequent reactions may occur at or substantially below the PEL and TLV. Asthma caused by isocyanates may persist in some individuals after removal from exposure and may be irreversible. Some isocyanate sensitized persons may experience asthma reactions upon exposure to non-isocyanate containing dusts or irritants. Cross sensitization to different isocyanates may occur.

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4. FIRST-AID MEASURES

General advice:
Remove contaminated clothing.
Contact the local poison control center or call BASF Emergency Response at 1-800-832-HELP (4357).

If inhaled:
Keep patient calm, remove to fresh air.
If breathing difficulties develop, aid in breathing and seek immediate medical attention.

If on skin:
Immediately wash thoroughly with soap and water. Seek medical attention.

If in eyes:
Flush with copious amounts of water for at least 15 minutes.
Hold eyelids open to facilitate rinsing.
Seek medical attention.

If swallowed:
Rinse mouth and then drink plenty of water.
Do not induce vomiting due to aspiration hazard.
Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.
Immediate medical attention is required.
Ingestion may cause irritation of the gastrointestinal tract.
Aspiration may result in chemical pneumonitis, which may be fatal.

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5. FIRE FIGHTING MEASURES

Flash point: 113 °F (45.0 °C) +/- 3 °F Setaflash Closed Cup (measured)
Lower explosion limit: 1.1 VOL%
Upper explosion limit: 7.9 VOL%

Suitable extinguishing media:
Dry extinguishing media
Carbon dioxide
Foam

Unsuitable extinguishing media for safety reasons:
Water spray

Hazards during firefighting:
Vapors and/or decomposition products are irritants and/or toxic.
If product is heated above decomposition temperatures, acrid smoke and fumes will be released.

Protective equipment for firefighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Vapors are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition. Flash fire may occur.
Remove product from areas of fire or otherwise cool sealed containers with water in order to avoid pressure build-up due to heat.
Do not flood burning material with water due to potential spreading of fire.
Contain contaminated water/firefighting water.
Run-off water from fire may cause pollution.
Notify proper authorities.
Avoid water contamination in closed containers or confined areas because carbon dioxide gas is generated.

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Extinguish sources of ignition nearby and downwind.
Wear suitable personal protective clothing and equipment.
Ensure adequate ventilation.
Avoid prolonged inhalation.
Avoid contact with skin and eyes.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater.
A spill of or in excess of the reportable quantity requires notification to state, local and national emergency authorities.
Acutely toxic for aquatic organisms.

Cleanup:

Dike spillage.
Wash down spill area with decontamination solution.
Spill area can be decontaminated with the following recommended decontamination solution:
Mixture of 80 % water and 20 % non-ionic surfactant, or 90 - 95 % water, 3 - 8 % concentrated ammonia and 2 % detergent.
Allow solution to stand for at least 10 minutes.
Shovel into open container.
Add additional decontamination solution to waste container.
Remove containers to a safe place, cover loosely, and allow to stand for 24 to 48 hours before sealing and disposing.

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7. HANDLING AND STORAGE

HANDLING

General advice:
Ensure adequate ventilation.
Do not puncture, drop or slide containers.
Use static lines when mixing and transferring material.
Handle and open container with care.
Avoid contact with the skin, eyes and clothing.
WARNING: Empty containers may still contain hazardous residue.
Do not apply to hot surfaces.
Proper ventilation and respiratory protection is required when sanding, flame cutting, welding or brazing coated surfaces.
If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.
Do not reseal container if contamination of the product is suspected.
Avoid water contamination in closed containers or confined areas, because carbon dioxide gas is generated.

Protection against fire and explosion:
Use antistatic tools.
Exhaust fans should be explosion proof.
Provide adequate ventilation to remove solvent vapors from lower levels or work areas and to prevent solvent contact with ignition sources.
Sealed containers should be protected against heat as this results in pressure build-up.
Risk of explosion if heated under confinement.
Avoid all sources of ignition: heat, sparks, or open flame.

STORAGE

General advice:
Keep container tightly closed.
Protect from direct sunlight.
Protect from temperatures above 49C/ 120F.
Store protected against freezing.
Consult local fire marshal for storage requirements.
Protect against moisture.
Slow non-hazardous polymerization possible when at or exceeding maximum temperatures.

Storage incompatability:
General: Segregate from incompatible substances.
Segregate from metals.
Segregate from oxidizing agents.
Segregate from strong bases.
Keep away from water.
Segregate from strong acids.

Storage stability
Storage temperature: 20-35 C
Protect against moisture.
If moisture enters isocyanate containers, CO2 forms and pressure builds up.
Carbon dioxide gas can cause containers to expand and possibly rupture explosively.

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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS
See section 2.

ADVICE ON SYSTEM DESIGN
Provide local exhaust ventilation to maintain recommended P.E.L.
General mechanical ventilation should comply with OSHA 1910.94.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection:
Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination.
Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:
Use appropriate chemically resistant gloves as determined by an evaluation of glove performance characteristics and the hazards and potential hazards identified, including but not limited to butyl, natural and synthetic rubber, nitrile, or neoprene.

Eye protection:
Tightly fitting safety goggles (chemical goggles).
Wear face shield if splashing hazard exists.

Body protection:
Body protection must be chosen based on activity level and exposure.

General safety and hygiene measures:
Consider the type of application and environmental concentrations to maintain the actual exposures below the established exposure limits.
Employee education and training in the safe use and handling of isocyanates is required under the OSHA Communication Standard.
Work place should be equipped with a shower and eye wash.
Contact lenses should not be worn.
Remove contaminated clothing.
Contaminated equipment or clothing should be cleaned after each use or disposed of.

Hands and/or face should be washed before breaks and at the end of the shift.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	liquid
Odour:	ketone-like
Colour:	clear
Boiling range:	300 °F / 148.9 °C
Vapour pressure:	2.10 mmHg (20 °C)
Weight per gallon:	8.60 lb/gal CALC
Vapour density:	heavier than air
Solids content:	approx. 71 %
% volatiles:	approx. 37.0 VOL%
Total VOC:	299 g/L / 2.5 lb/gal
VOC (minus water and exempt solvent):	299 g/L / 2.5 lb/gal
Weight of VOC (per volume of material):	299 g/L / 2.5 lb/gal

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10. STABILITY AND REACTIVITY

Conditions to avoid:
Avoid all sources of ignition: heat, sparks or open flames.
Avoid direct contact with water.
Avoid electrostatic discharge.

Substances to avoid:
Strong bases
Water
Alcohols
Amines
Strong oxidizing agents
Thiols
Transition metal salts
Strong acids

Hazardous reactions:
This product is chemically stable.
Reacts with water.
On contact with water gaseous decomposition products are formed which cause build-up of pressure in tightly closed containers.

Thermal decomposition
Risk of polymerization above the indicated temperature in the presence of moisture and isocyanate reactive substances.

Decomposition products:
Carbon monoxide
Carbon dioxide
Nitrogen oxides
Hydrogen cyanide

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11. TOXICOLOGICAL INFORMATION

No data available.

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12. ECOLOGICAL INFORMATION

No data available.

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13. DISPOSAL CONSIDERATIONS

Waste disposal of substances:
Dispose of in accordance with national, state and local regulations.
The use and processing of this product, or addition of other constituents, may cause it to be considered a hazardous waste.
It is the waste generators responsibility to determine if a particular waste is hazardous under RCRA.
Do not discharge into drains/surface waters/groundwater.
Incinerate or dispose of in a RCRA licensed facility.
Do not incinerate closed containers.

Contaminated packaging:
WARNING: Empty containers may still contain hazardous residue.
Dispose of in accordance with national, state and local regulations.

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14. TRANSPORT INFORMATION

Reference Bill of Lading.

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15. REGULATORY INFORMATION

FEDERAL REGULATIONS
TSCA, US released / listed

STATE REGULATIONS

State RTK:

CAS Number	Chemical name
28182-81-2	aliphatic polyisocyanate
110-43-0	methyl amyl ketone
822-06-0	hexamethylene-1,6-diisocyanate

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16. OTHER INFORMATION

Recommended use: FOR INDUSTRIAL USE ONLY.

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