

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 1/15
(30158360/CDU_GEN_US/EN)

1. Substance/preparation and company identification

Company

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard;
29 CFR Part 1910.1200

Classification of the product

Skin corrosion/irritation	2	
Respiratory sensitization	1	
Skin sensitization	1	
Specific target organ toxicity - single exposure	3	Vapours may cause drowsiness and dizziness.
Hazardous to the aquatic environment - acute	3	
Hazardous to the aquatic environment - chronic	3	
Flammable liquids	3	

Label elements

Pictogram:

Flame

Exclamation mark

Health hazard

Signal Word:

Danger

Hazard Statement:

H315

Causes skin irritation.

H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317

May cause an allergic skin reaction.

H412

Harmful to aquatic life with long lasting effects.

H226

Flammable liquid and vapour.

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 2/15
(30158360/CDU_GEN_US/EN)

H336 May cause drowsiness or dizziness.

Precautionary Statements (Prevention):

P273 Avoid release to the environment.
P272 Contaminated work clothing should not be allowed out of the workplace.
P240 Ground/bond container and receiving equipment.
P285 In case of inadequate ventilation wear respiratory protection.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P243 Take precautionary measures against static discharge.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P264 Wash with plenty of water and soap thoroughly after handling.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements (Response):

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P304 + P341 IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment (see on this label).
P362 + P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use water spray for extinction.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements (Storage):

P405 Store locked up.
P403 + P235 Store in a well-ventilated place. Keep cool.

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 3/15
(30158360/CDU_GEN_US/EN)

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

No applicable information available.

According to Regulation 1994 OSHA Hazard Communication Standard;
29 CFR Part 1910.1200

Emergency overview

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

SUSPECT CANCER HAZARD

MAY CAUSE PULMONARY EDEMA

SENSITIZER

CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE BLOOD-FORMING
ORGANS

INGESTION MAY CAUSE GASTRIC DISTURBANCES

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard;
29 CFR Part 1910.1200

CAS Number	Weight %	Chemical name
103-09-3	3.0 - 5.0 %	2-ethylhexyl acetate
95-63-6	1.0 - 3.0 %	1,2,4-trimethylbenzene
112-07-2	7.0 - 10.0 %	butylglycol acetate
123-86-4	15.0 - 20.0 %	n-butylacetate
763-69-9	1.0 - 3.0 %	ethyl 3-ethoxypropionate
4098-71-9	0.1 - 0.2 %	isophorone diisocyanate
64742-95-6	3.0 - 5.0 %	solvent naphtha (petroleum), light arom., <0.1% benzen
28182-81-2	25.0 - 50.0 %	aliphatic polyisocyanate
53880-05-0	10.0 - 15.0 %	aliphatic polyisocyanate

According to Regulation 1994 OSHA Hazard Communication Standard;
29 CFR Part 1910.1200

CAS Number	Weight %	Chemical name
28182-81-2	25.0 - 50.0 %	aliphatic polyisocyanate
123-86-4	15.0 - 20.0 %	n-butylacetate
53880-05-0	10.0 - 15.0 %	aliphatic polyisocyanate
112-07-2	7.0 - 10.0 %	butylglycol acetate

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 4/15
(30158360/CDU_GEN_US/EN)

103-09-3	3.0 -	5.0 %	2-ethylhexyl acetate
763-69-9	1.0 -	3.0 %	ethyl 3-ethoxypropionate
95-63-6	1.0 -	3.0 %	1,2,4-trimethylbenzene
98-82-8	0.1 -	0.2 %	isopropylbenzene

4. First-Aid Measures

Description of first aid measures

General advice:

First aid personnel should pay attention to their own safety.
If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position).
Remove contaminated clothing.

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.
If irritation develops, seek medical attention.
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.

Most important symptoms and effects, both acute and delayed

Symptoms:

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 5/15
(30158360/CDU_GEN_US/EN)

Extinguishing media

Suitable extinguishing media:

Dry extinguishing media

Carbon dioxide

Foam

Water spray

Unsuitable extinguishing media for safety reasons:

water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

Vapors and/or decomposition products are irritants and/or toxic.

If product is heated above decomposition temperatures, acrid smoke and fumes will be released.

Advice for fire-fighters

Protective equipment for fire-fighting:

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.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

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.

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 6/15
(30158360/CDU_GEN_US/EN)

Methods and material for containment and cleaning up
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.

7. Handling and Storage

Precautions for safe handling
Store in a well-ventilated place. Keep cool.
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.

Conditions for safe storage, including any incompatibilities
Segregate from incompatible substances.
Segregate from metals.
Segregate from oxidizing agents.
Segregate from strong bases.
Keep away from water.
Segregate from strong acids.

Further information on storage conditions:

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 7/15
(30158360/CDU_GEN_US/EN)

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 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.

8. Exposure Controls and Personal Protection

Components with occupational exposure limits

1,2,4-trimethylbenzene

ACGIH TWA 25 ppm

isopropylbenzene

ACGIH TWA 50 ppm

OSHA PEL 50 ppm 245 mg/m3

butylglycol acetate

ACGIH TWA 20 ppm

n-butylacetate

ACGIH STEL 200 ppm; TWA 150 ppm

OSHA PEL 150 ppm 710 mg/m3

isophorone diisocyanate

ACGIH TWA 0.005 ppm

Advice on system design:

General mechanical ventilation should comply with OSHA 1910.94.

Personal protective equipment

Respiratory protection:

For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Respiratory protection equipment must be approved for use with isocyanates.

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

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 8/15
(30158360/CDU_GEN_US/EN)

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.

9. Physical and Chemical Properties

Form:	liquid
Odour:	ester-like
Odour threshold:	No applicable information available.
Colour:	clear
pH value:	No applicable information available.
Melting temperature:	No applicable information available.
Boiling range:	257 - 390 °F / 125.0 - 199.0 °C
Sublimation temperature:	No applicable information available.
Flash point:	106 °F (41.1 °C) (calculated)
Flammability:	No applicable information available.
Lower explosion limit:	0.5 % (V)
Upper explosion limit:	13.1 % (V)
Autoignition:	No applicable information available.
Vapour pressure:	5.20 mmHg (20 °C)
Density:	8.56 Lb/USg CALC
Relative density:	1.03
Vapour density:	heavier than air
Partitioning coefficient n-octanol/water (log Pow):	No applicable information available.
Thermal decomposition:	No applicable information available.
Viscosity, dynamic:	No applicable information available.
Solids content:	approx. 58 % / 51.5225 % (V)
Viscosity, kinematic:	> 25.20 mm ² /s
Solubility in water:	No applicable information available.
% volatiles:	approx. 42.3 % / 48.5 % (V)

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 9/15
(30158360/CDU_GEN_US/EN)

Solubility (quantitative): No applicable information available.
Solubility (qualitative): No applicable information available.
Evaporation rate: No applicable information available.

10. Stability and Reactivity

Reactivity

Reactivity:
No applicable information available.

Chemical stability

Chemical stability:
The product is chemically stable.

Possibility of hazardous reactions

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

Conditions to avoid

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

Incompatible materials

Substances to avoid:
strong bases
water
alcohols
amines
strong oxidizing agents
thiols
transition metal salts
strong acids

Hazardous decomposition products

Decomposition products:
carbon monoxide
carbon dioxide
nitrogen oxides
hydrogen cyanide

Thermal decomposition:

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

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 10/15
(30158360/CDU_GEN_US/EN)

11. Toxicological Information

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 liquified gases.

Primary routes of entry:

Solvents are absorbed through the skin.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: 1,2,4-trimethylbenzene

Assessment of acute toxicity:

Of moderate toxicity after short-term inhalation.

Of low toxicity after single ingestion.

Information on: butylglycol acetate

Assessment of acute toxicity:

Of moderate toxicity after short-term skin contact.

Of moderate toxicity after single ingestion.

Information on: isophorone diisocyanate

Assessment of acute toxicity:

Of very high toxicity after short-term inhalation.

Information on: solvent naphtha (petroleum), light arom., <0.1% benzen

Assessment of acute toxicity:

Of pronounced toxicity after short-term skin contact.

Oral

Acute oral toxicity:

No applicable information available.

Inhalation

Acute inhalation toxicity:

No applicable information available.

Dermal

Acute dermal toxicity:

No applicable information available.

Assessment other acute effects

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 11/15
(30158360/CDU_GEN_US/EN)

Assessment of STOT single:
Possible narcotic effects (drowsiness or dizziness).

Irritation / corrosion

Assessment of irritating effects:
Skin contact causes irritation.

Information on: 2-ethylhexyl acetate
Assessment of irritating effects:
Skin contact causes irritation.

Information on: 1,2,4-trimethylbenzene
Assessment of irritating effects:
Irritating to eyes and skin.

Information on: butylglycol acetate
Assessment of irritating effects:
May cause slight irritation to the skin.

Information on: solvent naphtha (petroleum), light arom., <0.1%
benzen
Assessment of irritating effects:
Skin contact causes irritation.

Sensitization

Assessment of sensitization:
The substance may cause sensitization of the respiratory tract.
Sensitization after skin contact possible.

Information on: isophorone diisocyanate
Assessment of sensitization:
The substance may cause sensitization of the respiratory tract.
Sensitization after skin contact possible.

Information on: aliphatic polyisocyanate
Assessment of sensitization:
Caused skin sensitization in animal studies.

Aspiration hazard
No applicable information available.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity:
The product has not been tested. The statement has been derived
from the properties of the individual components.

Information on: 1,2,4-trimethylbenzene
Assessment of repeated dose toxicity:
Investigations using experimental animals show that the material

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 12/15
(30158360/CDU_GEN_US/EN)

can cause lung tissue changes following inhalation.

Information on: butylglycol acetate
Assessment of repeated dose toxicity:
May cause blood effects.

Genetic toxicity

Assessment of mutagenicity:
No applicable information available.

Carcinogenicity

Assessment of carcinogenicity:
No applicable information available.

Reproductive toxicity

Assessment of reproduction toxicity:
No applicable information available.

Development

Assessment of teratogenicity:
The product has not been tested. The statement has been derived from the properties of the individual components.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

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.

12. Ecological Information

No applicable information available.

13. Disposal Considerations

Waste disposal of substance

Dispose of in accordance with national, state and local

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 13/15
(30158360/CDU_GEN_US/EN)

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.

Container disposal

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

14. Transport Information

Land transport
USDOT

Hazard class: 3
Packing group: III
ID-number: UN 1263
Proper shipping name: Paint Related Material

Sea transport
IMDG

Hazard class: 3
Packing group: III
ID-number: UN 1263
Proper shipping name: Paint Related Material

Air transport
IATA/ICAO

Hazard class: 3
Packing group: III
ID-number: UN 1263
Proper shipping name: Paint Related Material

15. Regulatory Information

Federal Regulations

Registration status

TSCA, US released / listed
EPCRA 313

CAS number	Weight %	Chemical name
112-07-2	8.0	butylglycol acetate
95-63-6	2.5	1,2,4-trimethylbenzene

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25
Version: 7.0

Page: 14/15
(30158360/CDU_GEN_US/EN)

State regulations

State RTK

CAS Number	Chemical name
123-86-4	n-butylacetate
112-07-2	butylglycol acetate
103-09-3	2-ethylhexyl acetate
95-63-6	1,2,4-trimethylbenzene

CA Prop. 65

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

NFPA Hazard codes

Health: 2 Fire: 2 Reactivity: 0 Special:

HMIS III rating

Health: 2 Flammability: 2 Physical hazard: 0

16. Other information

SDS prepared by: BASF NA Product Regulations

SDS prepared on 25.02.2016

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR

Safety data sheet

DH16 NORMAL HARDENER

Revision date : 2016/02/25

Version: 7.0

Page: 15/15

(30158360/CDU_GEN_US/EN)

COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.