



## Material Safety Data Sheet

Last Revision: 05/10/2007

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Q-Flex® QDI

**MSDS NO.** FLXP0070

**Chemical Name:** Benzenamine, N-{4-[(1,3-dimethylbutyl)imino]-2,5-cyclohexadien-1-ylidene}-.

**Synonyms:** N-(1,3-Dimethylbutyl)-N'-phenyl-p-quinonediimine; AK-8777; Santoflex 6QDI; 6QDI; QDI; CP-29809.

**Use:** Antidegradant and processing aid

**Manufactured By:** Flexsys America L.P. 260 Springside Drive Akron OH 44333-2433 USA

**Emergency Telephone:** **CHEMTREC:** 1-800-424-9300 [TOLL FREE - USA and Territories]  
703-527-3887 [ELSEWHERE - Collect Calls Accepted]  
**CANUTEC:** 613-996-6666 [Canada]  
**SETIQ:** 91-800-00-214 [Mexico]

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### 2. HAZARDS IDENTIFICATION

**Emergency Overview:** WARNING! May cause severe eye irritation. May irritate the skin.

**Eye Contact:** Causes severe eye irritation.

**Skin Contact:** Causes mild skin irritation. May cause skin defatting with prolonged exposure. Contact with skin causes unsightly stains.

**Inhalation:** May cause mild respiratory irritation.

**Ingestion:** Illness may occur after a single swallowing of relatively large quantities of this material.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
N-(1,3-Dimethylbutyl)-N'-phenyl-p-quinonediimine	52870-46-9	95 - 98
N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine	793-24-8	1 - 5
Heptane	142-82-5	< 1
4-Methylpentan-2-one	108-10-1	< 0.5

### 4. FIRST AID MEASURES

**In Eyes:** Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

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**HARWICK STANDARD  
DISTRIBUTION CORPORATION**  
60 S. Seiberling Street • Akron, Ohio 44305

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#### 4. FIRST AID MEASURES

<b>On Skin:</b>	Wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy or properly dispose of contaminated shoes. Get medical attention if irritation persists. NOTE: This material may stain or discolor the skin.
<b>Inhaled:</b>	Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.
<b>Swallowed:</b>	If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person. Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. Never give fluids or induce vomiting if the victim is unconscious or having convulsions.
<b>Notes To Physician:</b>	Treat symptomatically.

#### 5. FIRE FIGHTING MEASURES

<b>Flash Point (°F/C):</b>	365°F / 180°C
<b>Flash Point Method:</b>	Cleveland Open Cup [ASTM D92-96]
<b>Autoignition Temp. (°F/C):</b>	905°F / 485°C
<b>Lower Explosion Limit (LEL):</b>	Not determined.
<b>Upper Explosion Limit (UEL):</b>	Not determined.
<b>Extinguishing Media:</b>	Use water fog, carbon dioxide, foam or dry chemical.
<b>Special Exposure Hazards:</b>	Fight fire from a safe distance and from a protected location. Use water spray to cool fire exposed surfaces. Decomposition in fire may produce toxic gases. Do not allow runoff to enter waterways.
<b>Special Protective Equipment:</b>	Fire fighters should wear full impervious protective clothing, including self-contained breathing equipment.
<b>Unusual Fire/Explosion Hazards:</b>	Toxic emissions may result if product is involved in a fire.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Spill Procedures:</b>	Wear impervious personal protective equipment to protect eyes, skin and clothing. Isolate the area. Stop leak if safe to do so.
<b>Procedure for Cleaning/Absorption:</b>	Contain liquid spills with sand or other inert materials. Absorb spill with inert material such as sand, dry earth or vermiculite. Scoop up and remove solids. NOTE: Spilled material may stain and discolor surfaces.
<b>CERCLA Reportable Quantity (RQ):</b>	Not Applicable

#### 7. HANDLING AND STORAGE

<b>Handling:</b>	Avoid contact with skin and eyes. Keep away from food and smoking materials. Good hygienic practices should be observed. Work clothes should be washed separately at the end of each work day. Disposable clothing should be discarded with material. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Do not reuse this container. Reclose containers of unused product. Keep containers tightly closed when not in use.
<b>Storage:</b>	Store closed containers in a cool, dry, well-ventilated area. Store away from strong oxidizing materials. Avoid exposure to direct sunlight.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Eye Protection:</b>	Chemical goggles recommended. Wear a face shield for additional protection if a splashing hazard exists. Wear eye protection appropriate to handling activities.
<b>Skin Protection:</b>	Normal work coveralls. Launder contaminated clothing before reuse. NOTE: This material can stain and discolor skin.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Gloves:</b>	Use gloves as a standard industrial handling procedure. All cleanable impervious glove types are acceptable. Consult glove manufacturer for best type of glove for specific tasks.
<b>Respiratory Protection:</b>	Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure. Use in a well ventilated area. Firefighting: Use a Positive Pressure Demand Full Face Self Contained Breathing Apparatus.
<b>Ventilation:</b>	General; local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during the use of this product. Use local exhaust to control to recommended P.E.L.

Component	ACGIH 8 Hr. TWA	ACGIH TLV	OSHA 8 Hr. TWA	OSHA PEL
Heptane	400 ppm TWA; 1640 mg/m <sup>3</sup> TWA		500 ppm TWA; 2000 mg/m <sup>3</sup> TWA	500 ppm TWA; 2000 mg/m <sup>3</sup> TWA
4-Methylpentan-2-one	50 ppm TWA; 205 mg/m <sup>3</sup> TWA		100 ppm TWA; 410 mg/m <sup>3</sup> TWA	100 ppm TWA; 410 mg/m <sup>3</sup> TWA

<b>Airborne Exposure Limits:</b>	No limits established for this product. Minor component information: HEPTANE: 15 minute STEL = 500 ppm. IDLH = 750 ppm.
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## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Dark oily liquid.
<b>Odor:</b>	AROMATIC AMINE
<b>pH:</b>	Not Applicable
<b>Specific Gravity:</b>	~ 1.00 @ 25°C
<b>Density:</b>	0.998 g/ml @ 20°C
<b>Bulk Density:</b>	Not Determined
<b>Melting Point (°F/C):</b>	-10°C (Pour Point)
<b>Boiling Point (°F/C):</b>	>300°C
<b>Vapor Pressure:</b>	0.72 Torr @ 148°C; 5.29x10 <sup>-4</sup> Pa @ 25°C
<b>Vapor Density (Air=1):</b>	Not Determined
<b>% Volatile by Volume:</b>	< 1.5%
<b>Solubility in Water:</b>	INSOLUBLE
<b>Other Solubility:</b>	Soluble in: Acetone Ether Ethanol Organic liquids, including fats and oils
<b>Viscosity:</b>	500 cPs @ 25°C [Typical]
<b>Other Data:</b>	Glass Transition Temperature: -20°C. Dissociation Constant: 4.4 pKa. Ash content = 0.5% max.
<b>Molecular Weight:</b>	266.39
<b>Molecular Formula:</b>	C18-H22-N2

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable under normal conditions of handling, use and transportation. Stable if protected from heat and exposure to air.
<b>Hazardous Polymerization:</b>	Will not occur.
<b>Conditions to Avoid:</b>	Avoid contact with strong oxidants such as liquid chlorine and concentrated oxygen. Exposure to light. Air.
<b>Materials to Avoid:</b>	Strong oxidizers
<b>Hazardous Decomposition Products:</b>	Oxides of nitrogen. Carbon monoxide.
<b>Additional Guidelines:</b>	Not Applicable

## 11. TOXICOLOGICAL INFORMATION

<b>Acute Oral LD50 (mg/kg):</b>	>3000 mg/kg (Rat)
<b>Acute Dermal LD50 (mg/kg):</b>	>3000 mg/kg (Rabbit)

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## 11. TOXICOLOGICAL INFORMATION

**Acute Inhalation LC50 (mg/l):** Not determined

**Target Organs / Principle Routes of Exposure:** Dermal - skin. Inhalation. Eyes.

**Ingestion:** Illness may occur after a single swallowing of relatively large quantities of this material.

**Skin Contact:** Causes mild skin irritation. May cause skin defatting with prolonged exposure. Contact with skin causes unsightly stains.

**Inhalation:** May cause mild respiratory irritation.

**Eye Contact:** Causes severe eye irritation.

**Aggravated Conditions:** Dermal ailments. Blood disorders. Eye ailments.

**Carcinogenicity Comment:** This product, or one of its ingredients present at 0.1% or more, is NOT listed as a carcinogen or suspected carcinogen by NTP, IARC or OSHA.

**Other Information:** Decomposition products and fumes from vulcanization and cross-linking may cause eye, skin and respiratory sensitization. May be a skin sensitizer.

**Primary Irritation Effect:** STRONG eye irritant. Practically non-irritating to skin.

**Carcinogenicity:** Negative in standard tests using bacteria and/or yeast cells.

**Genotoxicity:** Negative for genetic activity - in vitro tests.

**Reproductive/Developmental Toxicity:** No test data available. Similar compounds show no effects in animal studies.

## 12. ECOLOGICAL INFORMATION

**Acute Fish Toxicity:** 96Hr LC50 Rainbow Trout = 0.638 mg/l. 96Hr LC50 Fathead Minnow = 0.268 mg/l.

**Acute Crustaceans Toxicity:** 48Hr LC50 Daphnia Magna: 1.40 mg/l. 24Hr EC50 Daphnia Magna: 2.84 mg/l.

**Acute Algae Toxicity:** 96Hr EC50 Algae = 1.60 mg/l. NOEC Algae = 0.50 mg/l.

**Octanol/Water Coefficient:** 4.3 log P.

**Chemical Fate Information:** Ready Biodegradability (Modified Sturm) = 20%. Hydrolysis Half Life: T(1/2) = 19hrs @ pH4, 4.68hrs @ pH7, 4.31hrs @ pH9.

**Other Information:** 14-day LC50 Earthworm = 4,550 mg/kg dry soil

## 13. DISPOSAL CONSIDERATIONS

**Disposal of Waste Method:** This product is not regarded as hazardous waste. Dispose in accordance with local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations.

**Contaminated Packaging:** If empty container retains product residues, all label precautions must be observed. Transport with all closures in place. Return for reuse or dispose according to national or local regulations. Do NOT reuse container.

## 14. TRANSPORT INFORMATION

**DOT:** Not Regulated

**DOT Reportable Quantity (lbs):** None

**ICAO/IATA:** See DOT

**IMDG:** See DOT

**Marine Pollutant:** No

**TDG (Canada):** See DOT

**Remarks:** None

## 15. REGULATORY INFORMATION

### Worldwide Inventory Status

**USA (TSCA):** Listed  
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## 15. REGULATORY INFORMATION

Canada (DSL):	Not Listed Schedule I Notification Filed.
Canada (NDSL):	Listed
European Union (EINECS/ELINCS):	Listed
Japan (ENCS):	Not Listed. Registration in progress.
Korea (ECL):	Listed
Australia (AICS):	Not Listed
New Zealand (NZ):	Listed
Phillipines (PICCS):	Not Listed
China (CLECS):	Listed.

### US Regulatory Rules

SARA Section 302:	Not Applicable / None
SARA 311/312 Hazard Categories:	Immediate
SARA 313 Chemical:	Component 4-Methylpentan-2-one (MIBK)
RCRA Status:	Not a RCRA waste.

### Other Regulations:

California Proposition 65:	NONE
New Jersey Right-to-Know List:	Not Applicable.
Pennsylvania Right to Know List:	Not Applicable.
Florida Right to Know:	Not Applicable.
Minnesota Right to Know:	Not Applicable.
Massachusetts Right to Know Law:	Not Applicable.
FDA Status 21 CFR:	Not Regulated For Use in food contact applications under 21 CFR.

### Canadian Regulations

WHMIS Hazard Class:	D2B TOXIC MATERIALS / Materials Causing Other Toxic Effects
NPRI:	Not Applicable [Canada]

## 16. OTHER INFORMATION

### Hazard Rating Systems:

HMIS Classification:	HEALTH 2, FLAMMABILITY 1, REACTIVITY 0
NFPA Rating:	HEALTH 1, FLAMMABILITY 1, REACTIVITY 0

The following has been revised since the last issue of this MSDS: New MSDS format. Change in WHMIS Hazard Class information.

Additional Information: WHMIS Ingredient Disclosure List (Canada): Components Heptane, 4-Methylpentan-2-one.

**Important Note:** This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

\*\*\*END OF MSDS\*\*\*

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