



## Safety Data Sheet

### Section 1: Identification

#### Product identifier

##### Product Name

- **Performance Graded Asphalt Binder**

##### Synonyms

- PG46-28; PG46-34; PG52-28; PG52-28PM; PG52-34; PG58-22; PG58-28; PG58-34; PG58-34PM; PG64-22; PG64-22PM; PG64-28; PG64-28PM; PG64-34PM; PG67-22; PG70-22; PG70-22PM; PG70-28PM; PG76-22; PG76-22 PM; PG76-28PM; PG82-22PM

#### Relevant identified uses of the substance or mixture and uses advised against

##### Recommended use

- Consult manufacturer for the recommended product use

#### Details of the supplier of the safety data sheet

##### Manufacturer

- Northern Tier Energy  
301 St. Paul Park Road  
St. Paul Park, MN 55071  
United States  
www.ntenergy.com

Telephone (General) • 651-459-9771

#### Emergency telephone number

##### Chemtrec

- 800-424-9300

### Section 2: Hazard Identification

#### United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

#### Classification of the substance or mixture

##### OSHA HCS 2012

- Skin Irritation 2  
Specific Target Organ Toxicity Repeated Exposure 1

#### Label elements

##### OSHA HCS 2012

#### DANGER



#### Hazard statements

- Causes skin irritation  
Causes damage to organs through prolonged or repeated exposure.

#### Precautionary statements

- **Prevention** • Do not breathe mist, vapours and/or spray.  
Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.  
Wear protective gloves/protective clothing/eye protection/face protection.

- Response** • If on skin: Wash with plenty of water .  
Specific treatment, see supplemental first aid information.  
Take off contaminated clothing and wash before reuse.  
If skin irritation occurs: Get medical advice/attention.  
Get medical advice/attention if you feel unwell.

- Storage/Disposal** • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## Other hazards

### OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

## Canada

According to: WHMIS

## Classification of the substance or mixture

### WHMIS

- Other Toxic Effects - D2A  
Other Toxic Effects - D2B

## Label elements

### WHMIS



- Other Toxic Effects - D2A  
Other Toxic Effects - D2B

## Other hazards

### WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

## Section 3 - Composition/Information on Ingredients

## Substances

- Material does not meet the criteria of a substance.

## Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Asphalt	CAS:8052-42-4	94% TO 100%	Ingestion/Oral-Rat LD50 • >5000 mg/kg Inhalation-Rat LC50 • >94.4 mg/m <sup>3</sup>	OSHA HCS 2012: Skin Irrit. 2;	NDA
Sulfur	CAS:7704-34-9	0% TO 5%	NDA	OSHA HCS 2012: Flam. Sol. 1; STOT SE 3: Resp. Irrit.; STOT RE 1 (Kidney, Lungs, Liver);	NDA
Hydrogen sulfide	CAS:7783-06-4	0% TO 0.1%	Inhalation-Rat LC50 • 444 ppm 4 Hour(s)	OSHA HCS 2012: Flam. Gas 1; Press. Gas - Comp.; Eye Irrit. 2; Acute Tox. 2 (Inhl); STOT SE 3: Resp. Irrit.;	NDA

## Section 4: First-Aid Measures

### Description of first aid measures

- Inhalation**
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Get medical attention if symptoms occur.
- Skin**
- Wash skin with soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.
- Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
- Ingestion**
- Do NOT induce vomiting. Do not give anything by mouth to an unconscious person. Obtain medical attention immediately if ingested.

### Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

### Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

## Section 5: Fire-Fighting Measures

### Extinguishing media

- Suitable Extinguishing Media**
- For small fires, Class B fire extinguishing media such as CO<sub>2</sub>, dry chemical, foam (AFFF/ATC) or water spray.  
For large fires, water spray, fog or foam (AFFF/ATC)
- Unsuitable Extinguishing Media**
- Avoid using straight water streams.

### Special hazards arising from the substance or mixture

- Unusual Fire and Explosion Hazards**
- This product is not a combustible material per the OSHA Hazard Communication Standard, but will ignite and burn at temperatures exceeding the flash point.
- Hazardous Combustion Products**
- No data available.

### Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA).

## Section 6 - Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Ventilate enclosed areas. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact.
- Emergency Procedures**
- Keep unauthorized personnel away. Stay upwind.

### Environmental precautions

- Avoid run off to waterways and sewers.

### Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- Stop leak if you can do it without risk.  
SMALL SPILLS: Take up with sand or other non-combustible absorbent material and place into containers for later disposal.  
LARGE SPILLS: Dike far ahead of liquid spill for later disposal.

## Section 7 - Handling and Storage

### Precautions for safe handling

#### Handling

- Use only with adequate ventilation. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues. Wear appropriate personal protective equipment. Do not breathe mist, vapours and/or spray. Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

### Conditions for safe storage, including any incompatibilities

#### Storage

- Keep container tightly closed. Store in a cool, dry, well-ventilated place.

## Section 8 - Exposure Controls/Personal Protection

### Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
Hydrogen sulfide (7783-06-4)	Ceilings	Not established	10 ppm Ceiling (10 min); 15 mg/m <sup>3</sup> Ceiling (10 min)	20 ppm Ceiling
	STELs	5 ppm STEL	Not established	Not established
	TWAs	1 ppm TWA	Not established	Not established
Asphalt (8052-42-4)	TWAs	0.5 mg/m <sup>3</sup> TWA (fume, inhalable fraction, as benzene soluble aerosol)	Not established	Not established
	Ceilings	Not established	5 mg/m <sup>3</sup> Ceiling (fume, 15 min)	Not established

### Exposure controls

#### Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

#### Personal Protective Equipment

##### Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

##### Eye/Face

- Goggles and faceshield when handling hot material.

##### Skin/Body

- Wear impermeable gloves (e.g., nitrile, viton, tyvek/saranex 23)

#### Environmental Exposure Controls

- Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

#### Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

STEL = Short Term Exposure Limits are based on 15-minute exposures

NIOSH = National Institute of Occupational Safety and Health

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

OSHA = Occupational Safety and Health Administration

## Section 9 - Physical and Chemical Properties

### Information on Physical and Chemical Properties

<b>Material Description</b>			
Physical Form	Liquid	Appearance/Description	A black-brown solid or semi-solid with tar odor.
Color	Black-brown	Odor	Tar
Odor Threshold	No data available		
<b>General Properties</b>			
Boiling Point	> 700 F(> 371.1111 C)	Melting Point/Freezing Point	> 100 F(> 37.7778 C)
Decomposition Temperature	No data available	pH	Neutral
Specific Gravity/Relative Density	0.95 to 1.05 Water=1	Density	7.9 to 8.7 lbs/gal @ 60 F(15.5556 C)
Water Solubility	Negligible < 0.1 %	Viscosity	No data available
<b>Volatility</b>			
Vapor Pressure	Negligible @ 77 F	Vapor Density	No data available
Evaporation Rate	No data available	Volatiles (Wt.)	0 %
Volatiles (Vol.)	0 %		
<b>Flammability</b>			
Flash Point	> 450 F(> 232.2222 C)	UEL	6 %
LEL	1 %	Autoignition	No data available
Flammability (solid, gas)	No data available		
<b>Environmental</b>			
Octanol/Water Partition coefficient	No data available		

## Section 10: Stability and Reactivity

### Reactivity

- No dangerous reaction known under conditions of normal use.

### Chemical stability

- Stable

### Possibility of hazardous reactions

- Hazardous polymerization will not occur.

### Conditions to avoid

- Excessive heat, sources of ignition and open flames.

### Incompatible materials

- Strong oxidizers such as nitrates, chlorates, peroxides.

### Hazardous decomposition products

- Combustion produces toxic oxides of sulfur, carbon monoxide, sulfur dioxide, hydrogen sulfide and hydrocarbons.

## Section 11 - Toxicological Information

### Information on toxicological effects

<b>Components</b>	
	<b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • >5000 mg/kg; <i>Gastrointestinal:</i> <b>Hypermotility, diarrhea</b> ; Inhalation-Rat

Asphalt (94% TO 100%)	8052-42-4	LC50 • >94.4 mg/m <sup>3</sup> ; <b>Mutagen:</b> Micronucleus test • Unreported Route-Rat • Other Cell Type • 57.8 µg/L; <b>Tumorigen / Carcinogen:</b> Skin-Mouse TDLo • 905 g/kg 2 Year(s)-Intermittent; <i>Tumorigenic:Neoplastic by RTECS criteria; Lungs, Thorax, or Respiration:Tumors; Skin and Appendages:Other:Tumors</i>
Sulfur (0% TO 5%)	7704-34-9	<b>Acute Toxicity:</b> Inhalation-Mammal LC50 • 1660 mg/m <sup>3</sup> ; <b>Irritation:</b> Eye-Human • 8 ppm; <b>Multi-dose Toxicity:</b> Inhalation-Rat TCLo • 1.76 mg/m <sup>3</sup> 4 Hour(s) 30 Day(s)-Intermittent; <i>Liver:Hepatitis (hepatocellular necrosis), diffuse; Kidney, Ureter, and Bladder:Changes in tubules (including acute renal failure, acute tubular necrosis)</i>
Hydrogen sulfide (0% TO 0.1%)	7783-06-4	<b>Acute Toxicity:</b> Inhalation-Rat LC50 • 444 ppm 4 Hour(s); <b>Irritation:</b> Eye-Human • 0.000125 ppm 5 Hour(s); <b>Reproductive:</b> Inhalation-Rat TCLo • 10 ppm (multigeneration)); <i>Reproductive Effects:Effects on Newborn:Behavioral</i>

GHS Properties	Classification
Respiratory sensitization	OSHA HCS 2012 • No data available
Serious eye damage/Irritation	OSHA HCS 2012 • No data available
Acute toxicity	OSHA HCS 2012 • No data available
Aspiration Hazard	OSHA HCS 2012 • No data available
Carcinogenicity	OSHA HCS 2012 • No data available
Skin corrosion/Irritation	OSHA HCS 2012 • Skin Irritation 2
Skin sensitization	OSHA HCS 2012 • No data available
STOT-RE	OSHA HCS 2012 • Specific Target Organ Toxicity Repeated Exposure 1
STOT-SE	OSHA HCS 2012 • No data available
Toxicity for Reproduction	OSHA HCS 2012 • No data available
Germ Cell Mutagenicity	OSHA HCS 2012 • No data available

## Potential Health Effects

### Inhalation

#### Acute (Immediate)

- Hydrogen sulfide can cause respiratory paralysis and death, depending on the concentration and duration of exposure. Do not rely on ability to smell vapors, since loss of smell rapidly occurs. Effects of overexposure include irritation of the nose and throat, nausea, vomiting, diarrhea, abdominal pain and signs of nervous system depression (e.g. headache, drowsiness, dizziness, loss of coordination and fatigue), irregular heartbeats, pulmonary edema, weakness and convulsions.

#### Chronic (Delayed)

- No data available.

### Skin

#### Acute (Immediate)

- Causes skin irritation.

#### Chronic (Delayed)

- No data available.

### Eye

#### Acute (Immediate)

- Contact with heated material may cause thermal burns. May cause irritation.

#### Chronic (Delayed)

- No data available.

### Ingestion

#### Acute (Immediate)

- Ingestion can produce damage (thermal burns) to tissues of the gastrointestinal tract.

#### Chronic (Delayed)

- No data available.

### Other

#### Chronic (Delayed)

- Repeated and prolonged exposure may cause damage to the lungs, liver, kidney.

**Carcinogenic Effects**

- This material does contain a component that may cause cancer, however this material as a whole is not classified as a carcinogen.

Carcinogenic Effects		
	CAS	IARC
Asphalt	8052-42-4	Group 2B-Possible Carcinogen

**Key to abbreviations**

LC = Lethal Concentration  
 LD = Lethal Dose  
 TC = Toxic Concentration  
 TD = Toxic Dose

**Section 12 - Ecological Information****Toxicity**

- Non-mandatory section - information about this substance not compiled for this reason.

**Persistence and degradability**

- Non-mandatory section - information about this substance not compiled for this reason.

**Bioaccumulative potential**

- Non-mandatory section - information about this substance not compiled for this reason.

**Mobility in Soil**

- Non-mandatory section - information about this substance not compiled for this reason.

**Other adverse effects**

- Non-mandatory section - information about this substance not compiled for this reason.

**Section 13 - Disposal Considerations****Waste treatment methods****Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Packaging waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

**Section 14 - Transport Information**

	UN number	UN proper shipping name	Transport hazard class (es)	Packing group	Environmental hazards
DOT	UN3257	Elevated temperature liquid, n.o.s.	9	III	NDA
TDG	UN3257	ELEVATED TEMPERATURE LIQUID, N.O.S.	9	III	NDA

**Special precautions for user**

- None specified.

**Transport in bulk according**

- No data available

to Annex II of MARPOL 73/78  
and the IBC Code

## Section 15 - Regulatory Information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute, Chronic

Inventory				
Component	CAS	Canada DSL	Canada NDSL	TSCA
Asphalt	8052-42-4	Yes	No	Yes
Hydrogen sulfide	7783-06-4	Yes	No	Yes
Sulfur	7704-34-9	Yes	No	Yes

## Canada

### Labor

#### Canada - WHMIS - Classifications of Substances

• Hydrogen sulfide	7783-06-4	A, B1, D1A, D2B
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	B4

#### Canada - WHMIS - Ingredient Disclosure List

• Hydrogen sulfide	7783-06-4	1 %
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed

### Environment

#### Canada - CEPA - Priority Substances List

• Hydrogen sulfide	7783-06-4	Not Listed
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed

## United States

### Labor

#### U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Hydrogen sulfide	7783-06-4	1500 lb TQ
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed

#### U.S. - OSHA - Specifically Regulated Chemicals

• Hydrogen sulfide	7783-06-4	Not Listed
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed

### Environment

#### U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Hydrogen sulfide	7783-06-4	Not Listed
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed

#### U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities



• Hydrogen sulfide	7783-06-4	100 lb final RQ; 45.4 kg final RQ
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed
<b>U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities</b>		
• Hydrogen sulfide	7783-06-4	Not Listed
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed
<b>U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs</b>		
• Hydrogen sulfide	7783-06-4	100 lb EPCRA RQ
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed
<b>U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs</b>		
• Hydrogen sulfide	7783-06-4	500 lb TPQ
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed
<b>U.S. - CERCLA/SARA - Section 313 - Emission Reporting</b>		
• Hydrogen sulfide	7783-06-4	1.0 % de minimis concentration
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed
<b>U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing</b>		
• Hydrogen sulfide	7783-06-4	Not Listed
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed

## United States - California

### Environment

<b>U.S. - California - Proposition 65 - Carcinogens List</b>		
• Hydrogen sulfide	7783-06-4	Not Listed
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed
<b>U.S. - California - Proposition 65 - Developmental Toxicity</b>		
• Hydrogen sulfide	7783-06-4	Not Listed
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed
<b>U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)</b>		
• Hydrogen sulfide	7783-06-4	Not Listed
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed
<b>U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)</b>		
• Hydrogen sulfide	7783-06-4	Not Listed
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed
<b>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</b>		

• Hydrogen sulfide	7783-06-4	Not Listed
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed
<b>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</b>		
• Hydrogen sulfide	7783-06-4	Not Listed
• Asphalt	8052-42-4	Not Listed
• Sulfur	7704-34-9	Not Listed

## Section 16 - Other Information

### Revision Date

- 03/November/2015

### Preparation Date

- 30/November/2010

### Disclaimer/Statement of Liability

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### Key to abbreviations

NDA = No data available