

# Cray Valley USA, LLC

## Material Safety Data Sheet

Product: NORSOLENE® S-85  
MSDS ID: S-002233

Revised Date: 09-10-2009

### **01. GENERAL INFORMATION**

Cray Valley USA, LLC  
Oaklands Corporate Center  
468 Thomas Jones Way  
Exton, Pennsylvania 19341

Emergency phone number:  
800/424-9300 (CHEMTREC)

Product information:  
610/363-4100

#### TRADE NAME

Norsolene S Grades: S85, S95, S105

#### GENERIC NAME

Aromatic Hydrocarbon Resin

#### DOT PROPER SHIPPING NAME

N/AP

#### UN/NA NUMBER

N/AP

#### DOT HAZARD CLASS

Not regulated

### **02. SUMMARY OF HAZARDS**

#### WARNING

PHYSICAL HAZARDS: Potential dust explosion hazard

ACUTE HEALTH EFFECTS:  
(SHORT-TERM) Suspect respiratory tract irritation/  
inhalation hazard  
Suspect eye irritation hazard  
Slight skin irritation hazard if skin contact  
prolonged  
Suspect skin absorption hazard  
Not an ingestion hazard based on available data

CHRONIC HEALTH EFFECTS:  
(LONG-TERM) No data are available for this product as a whole.  
See Supplement Section (Section 13) of MSDS for  
additional chronic health effects information on  
naphthalene, a minor component of this product.

### **03. COMPONENTS**

COMPONENT NAME	CAS NUMBER	% COMPOSITION (BY WT.)
Aromatic Hydrocarbon Resin	68410-16-2	AP 99-100
Naphthalene	91-20-3	AP 0.8 (max)

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### 04. PHYSICAL AND CHEMICAL DATA

BOILING POINT	pH
N/AP	N/DA
FREEZING POINT	SOFTENING RANGE
N/AP	83-105C (181-221F)
SPECIFIC GRAVITY (H2O=1 at 39.2F)	VOLATILE CHARACTERISTICS
1.06-1.08 at 25C/77F	Negligible at 20C/68F
VISCOSITY UNITS, TEMP.	SOLUBILITY IN WATER
N/AP	Insoluble
VAPOR PRESSURE	STABILITY
AP 25 mm Hg at 204C/400F	Stable
VAPOR SP GR (AIR=1 at 60 - 90F)	HAZARDOUS POLYMERIZATION
N/DA	Will not occur

#### APPEARANCE AND ODOR

Translucent, pale yellow to amber pellets/flakes with low typical hydrocarbon odor

#### CONDITIONS AND MATERIALS TO AVOID

Keep material away from oxidizing agents and out of direct sunlight. Avoid generating dust when handling this material and prevent electrostatic charge formation/build up during storage, transfer and handling/use. Avoid decomposition of material during thermal processing.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide, carbon dioxide may be released during thermal decomposition or in a fire involving this product.

### 05. OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	TYPE	VALUE
Particulates, not otherwise classified	OSHA	PEL-TWA	15 mg/g3 (Total dust) 5 mg/m3 (Respirable)
	ACGIH	TLV-TWA	10 mg/m3 (Inhalable) 3 mg/m3 (Respirable)
Naphthalene	OSHA	PEL-TWA	10 ppm
	ACGIH	TLV-TWA	10 ppm (skin)
		TLV-STEL	15 ppm (skin)

### 06. FIRE AND EXPLOSION

FLASH POINT = Closed Cup	AUTOIGNITION TEMP.
>249C (480F)	N/DA

#### FLAMMABLE LIMITS (% VOLUME IN AIR)

LOWER: N/AP      UPPER: N/AP

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### FIRE AND EXPLOSION HAZARDS

If a sufficient quantity of finely divided dust is mixed with air and exposed to an ignition source, it may burn in the open or explode if confined. Follow good housekeeping practices to avoid rendering dust airborne and prevent electrostatic charge formation during storage, transfer and use of this material. Ensure all equipment is adequately grounded. Vapors generated from overheating/melting or decomposition may be flammable and may cause fire/explosion if an ignition source is present.

### EXTINGUISHING MEDIA

Dry chemical  
CO2  
Water spray  
Foam  
Water fog

### SPECIAL FIREFIGHTING PROCEDURES

Do not enter fire area without proper protection. See section on decomposition products possible. Fight fire from safe distance/protected location. Apply aqueous extinguishing media carefully to prevent frothing/steam explosion. Use water spray/fog for cooling. Avoid contact with molten product to prevent serious burns. Avoid raising powdered materials into airborne dust, creating an explosion hazard. Notify authorities if liquid enters sewer/public waters.

## **07. HEALTH HAZARDS**

### ROUTES OF EXPOSURE

#### INHALATION -- PRIMARY ROUTE

This product is primarily a high molecular weight hydrocarbon resin that is expected to have low toxicity. Overexposure to vapors, mists or dusts, however, may cause irritation of the respiratory tract. Symptoms may include cough, sneezing, mucous production and shortness of breath. In addition, this product does contain a very small amount of naphthalene. Based on the presence of naphthalene, the following statements are included in this MSDS.

Excessive exposure to vapor or mist may result in toxic effects. Blood toxicities (hematotoxicity), blood dyscrasias (i.e., anemia, jaundice, etc.) and hemolysis may occur. Overexposure may also result in ocular toxicity and cataracts. Irritation of the respiratory tract from vapors, mists or dust may also occur with naphthalene exposure. Symptoms may include cough, sneezing, mucous production and shortness of breath.

#### EYE CONTACT -- PRIMARY ROUTE

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause eye irritation. Particulates/dust entering the eye can cause irritation. Eyes may become red, feel scratchy and tear. And, as indicated above, overexposure to naphthalene may result in ocular toxicity and cataracts.

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### SKIN ABSORPTION

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a health hazard by skin absorption. See effects noted under INHALATION.

### SKIN IRRITATION -- PRIMARY ROUTE

Prolonged skin contact may cause slight skin irritation. Skin contact with molten product may cause thermal burns.  
Based on available test data, this material is not expected to cause allergic skin reactions (sensitization).

### INGESTION

No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of ingestion.

### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

This material or its emissions may induce or aggravate blood disorders. Acute renal failure has been seen with some cases of naphthalene overexposure.

## **08. PROTECTIVE EQUIPMENT / CONTROL MEASURES**

### RESPIRATORY PROTECTION

If exposure can exceed the PEL/TLV, use only NIOSH/MSHA approved air-purifying or supplied air respirator operated in a positive pressure mode per the NIOSH/OSHA 1981 occupational health guidelines for chemical hazards.

### EYE PROTECTION

Chemical splash goggles must be worn when the possibility exists for eye contact due to splashing or spraying liquid, airborne particles or vapor. Contact lenses must not be worn.

### SKIN PROTECTION

Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn. This equipment should be cleaned thoroughly after each use.

Use insulated gloves, impervious apron, long sleeves and other protective clothing when handling this material hot. Wash clothing frequently.

### ENGINEERING CONTROLS

Local exhaust and general room ventilation are usually required to meet exposure standards. Ensure ventilation minimizes exposure to airborne vapors, mists and dust that may be generated during handling and processing and by processing equipment. If mechanical ventilation is used, electrical systems should conform to National Electric Code.

### OTHER HYGIENIC PRACTICES

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

### OTHER WORK PRACTICES

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Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse. Shower after work using plenty of soap and water.

### **09. EMERGENCY AND FIRST AID**

#### **INHALATION**

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

#### **EYE CONTACT**

In case of eye contact, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain emergency medical attention.

#### **SKIN CONTACT**

Remove contaminated clothing as needed. Wash skin thoroughly with mild soap/water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first.

In case of skin contact with molten product, flood affected areas with cool water for 15 minutes. **Do not attempt to remove adhered material from skin.** Obtain emergency medical attention.

#### **INGESTION**

Not expected to present a significant ingestion hazard under anticipated conditions of normal use. However, if ingested, give lukewarm water (pint) if victim completely conscious/alert. Do not induce vomiting. Obtain emergency medical attention.

### **10. SPILL AND DISPOSAL**

#### **PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED**

Material can create slipping hazard on any hard surface. Remove spilled material immediately from hard, smooth walking surfaces. Sweep/shovel contaminated material into suitable disposal containers. Minimize airborne dusting. Report per regulatory requirements.

#### **WASTE DISPOSAL METHODS**

When discarded in its purchased form, this product is not a RCRA hazardous waste. However, it is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste. Comply with all applicable federal, state and local regulations. Waste disposal options include landfilling solids at permitted sites. Use registered transporters.

### **11. ADDITIONAL PRECAUTIONS**

#### **HANDLING AND STORAGE PROCEDURES**

Store material in a cool, dry place. Keep away from sparks and open flame. Flaked forms are prone to gradual oxidation. This material is not expected to

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present a dust explosion hazard during normal transportation and storage operations. However, a significant dust explosion can occur when an excessive concentration of dust is dispersed in air and is subject to an ignition source of sufficient energy. Minimize the potential for dust explosion by eliminating/controlling ignition sources (bond and ground) and by using good housekeeping practices during storage, transfer, and handling. Ensure equipment is adequately grounded. Prevent dust from accumulating on overhead horizontal surfaces and prevent dust from escaping from process equipment. Use explosion relief vents on dust collectors and dust handling equipment. Electrical equipment should conform to the National Electric Code. This material is sensitive to electrostatic discharge ignition. Static electricity can be generated when pouring this material into a receiving vessel. Prevent electrostatic charge formation by bonding and grounding containers and vessels. The plastic packaging film used to secure bags of material on pallets can also develop static electricity-- remove packaging film in an area free from ignitable vapors/dust. Refer to the latest edition of the National Fire Protection Association (NFPA) 654 publication, "Standard for the Prevention of Fire and Dust Explosions in the Chemical, Dye, Pharmaceutical, and Plastics Industries", for complete discussion on dust explosion prevention and control measures.

Store material at temperatures below 40C/104F.

### DECONTAMINATION PROCEDURES

Follow standard plant procedures or supervisor's instructions for decontamination operations.

## **12. LABEL INFORMATION**

### USE STATEMENT

FOR INDUSTRIAL USE ONLY

### SIGNAL WORD

WARNING

### PHYSICAL HAZARDS

POTENTIAL DUST EXPLOSION HAZARD

### HEALTH HAZARDS

MAY CAUSE EYE AND RESPIRATORY TRACT IRRITATION

MOLTEN PRODUCT MAY CAUSE THERMAL BURNS

MAY BE HARMFUL IF INHALED OR ABSORBED THROUGH SKIN (TARGET ORGANS: BLOOD, EYES)

CONTAINS NAPHTHALENE WHICH MAY CAUSE CANCER BASED ON AVAILABLE DATA

### PRECAUTIONARY MEASURES

PREVENT ACCUMULATION OF DUST.

PREVENT ELECTROSTATIC CHARGE FORMATION.

AVOID CONTACT WITH EYES, SKIN AND CLOTHING.

AVOID CONTACT WITH MOLTEN PRODUCT.

AVOID BREATHING DUST/VAPORS/MISTS.

USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.

REMOVE SPILLED MATERIAL IMMEDIATELY FROM HARD, SMOOTH WALKING SURFACES.

WASH THOROUGHLY AFTER HANDLING.

KEEP CONTAINER CLOSED WHEN NOT IN USE.

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BEFORE USING PRODUCT, READ MATERIAL SAFETY DATA SHEET (MSDS).

### **13. SUPPLEMENT**

#### NPCA HMIS RATING

Health	2*
Flammability	1
Reactivity	0
Personal Protection	See Section 8 of MSDS

#### CHRONIC HEALTH EFFECTS INFORMATION

No chronic health effects information is available for this product as a whole. There are data on naphthalene, the minor component of this product. Repeated oral administration of naphthalene in animals showed some developmental toxicity effects. Mutagenicity data for naphthalene are mixed (both negative and positive results). The International Agency for Research on Cancer (IARC) classifies naphthalene as an IARC 2B carcinogen, possibly carcinogenic to humans. The National Toxicology Program (NTP) 11th Report on Carcinogens indicates naphthalene caused malignant nasal tumors in rats when administered via inhalation. Some of these tumors invaded the brain. The report also indicates that inhalation exposure to naphthalene significantly increased the incidence of lung tumors in female mice. No doses were mentioned in the report for any of these studies. Data on human exposure to naphthalene are inadequate for evaluating its carcinogenicity according to the NTP. The NTP classifies naphthalene as a Group 2 carcinogen, which is a substance that is *reasonably anticipated to be a carcinogen*. Industrial hygiene monitoring should be performed when using this product to rule out overexposure to naphthalene.

#### REGULATORY INFORMATION

##### **TSCA Status**

TSCA status: All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

##### **California Proposition 65**

California Proposition 65 Information: This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

Naphthalene, 0.8% (maximum by weight)

##### **SARA 313 Information**

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:

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Naphthalene, 0.8% (maximum by weight)  
CASRN 91-20-3

### International Inventory Status

Australia (AICS):	included on inventory
Canada (DSL):	included on inventory
China (IECSC):	not included on inventory
Europe (EINECS):	polymer
Japan (ENCS):	not included on inventory
Korea (ECL):	included on inventory
New Zealand (NZIOc):	included on interim inventory
Philippines (PICCS):	not included on inventory

\*Note - qualifiers and codes used in this MSDS

EQ = Equal; AP = Approximately; LT = Less Than; GT = Greater Than;  
TR = Trace; UK = Unknown; N/AP = Not Applicable; N/P = No Applicable  
Information Found; N/DA = No Data Available

### 14. DISCLAIMERS

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable. This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).