

# SV Appendix IX Additions Spike

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 11/13/2018

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Version: 1.0

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
 Product name : SV Appendix IX Additions Spike  
 Product code : AL0-130562

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

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

Phenova  
 6390 Joyce Dr. Suite 100  
 Golden, CO 80403 - United States  
 T 1-866-942-2978 - F 1-866-283-0269  
[info@phenova.com](mailto:info@phenova.com) - [www.phenova.com](http://www.phenova.com)

#### 1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924  
 ChemTel Assistance (International) +1 813-248-0585

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flam. Liq. 2 : H225  
 Carc. 1B : H350

Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapour  
 H350 - May cause cancer

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P233 - Keep container tightly closed.  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
 P308+P313 - If exposed or concerned: Get medical advice/attention.  
 P370+P378 - In case of fire: Use media other than water to extinguish.  
 P403+P235 - Store in a well-ventilated place. Keep cool.  
 P405 - Store locked up.  
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

No data available

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Not applicable

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### 3.2. Mixtures

Name	Product identifier	%	GHS-US classification
acetone	(CAS-No.) 67-64-1	99.5	Flam. Liq. 2, H225
diphenyl	(CAS-No.) 92-52-4	0.1	Carc. 1B, H350

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

- Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

No additional information available

### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up in absorbent material. Collect spillage.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.
- Hygiene measures : Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.

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### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container closed when not in use. Keep container tightly closed and in a well-ventilated place. Keep away from any flames or sparking source.
- Incompatible materials : Direct sunlight.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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USA ACGIH	ACGIH TWA (ppm)	250 ppm
USA ACGIH	ACGIH STEL (ppm)	500 ppm
USA ACGIH	Remark (ACGIH)	eye irr; CNS impair; BEI
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2400 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

### diphenyl (92-52-4)

USA ACGIH	ACGIH TWA (ppm)	0.2 ppm (Biphenyl; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA ACGIH	Remark (ACGIH)	Pulm func
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	0.2 ppm

### acetone (67-64-1)

USA ACGIH	ACGIH TWA (ppm)	500 ppm (Acetone; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA ACGIH	ACGIH STEL (ppm)	750 ppm (Acetone; USA; Short time value; TLV - Adopted Value)
USA ACGIH	Remark (ACGIH)	eye irr; CNS impair; BEI
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2400 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

### 8.2. Exposure controls

- Appropriate engineering controls : Either local exhaust or general room ventilation is usually required.
- Personal protective equipment : Avoid all unnecessary exposure. Gloves. Protective clothing. Protective goggles. Safety glasses.



- Hand protection : Wear chemically resistant protective gloves. Wear suitable gloves resistant to chemical penetration.
- Eye protection : Chemical goggles or safety glasses. Safety glasses.
- Skin and body protection : Wear chemically protective gloves, lab coat or apron to prevent prolonged or repeated skin contact.
- Respiratory protection : Wear appropriate mask.
- Other information : Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Color : Colorless.
- Odor : characteristic.
- Odor threshold : No data available

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pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>diphenyl (92-52-4)</b>	
LD50 oral rat	3280 mg/kg (Rat)
LD50 dermal rabbit	2500 mg/kg (Rabbit)
ATE CLP (oral)	3280 mg/kg body weight
ATE CLP (dermal)	2500 mg/kg body weight
<b>acetone (67-64-1)</b>	
LD50 oral rat	5800 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value)
LD50 dermal rabbit	20000 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; >7426 mg/kg bodyweight; Rabbit; Weight of evidence)
LC50 inhalation rat (mg/l)	71 mg/l/4h (Rat; Experimental value; 76 mg/l/4h; Rat; Experimental value)

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<b>acetone (67-64-1)</b>	
LC50 inhalation rat (ppm)	30000 ppm/4h (Rat; Experimental value)
ATE CLP (oral)	5800 mg/kg body weight
ATE CLP (dermal)	20000 mg/kg body weight
ATE CLP (gases)	30000 ppmV/4h
ATE CLP (vapors)	71 mg/l/4h
ATE CLP (dust, mist)	71 mg/l/4h

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
	Based on available data, the classification criteria are not met
Carcinogenicity	: May cause cancer.

<b>diphenyl (92-52-4)</b>	
IARC group	2A - Probably carcinogenic to humans

Reproductive toxicity	: Not classified
	Based on available data, the classification criteria are not met
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
	Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
	Based on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>diphenyl (92-52-4)</b>	
LC50 fish 1	1.5 mg/l (LC50; 96 h; Salmo gairdneri)
EC50 Daphnia 2	0.36 mg/l (LC50; 48 h)
Threshold limit algae 2	1.28 mg/l (EC50; 3 h)

<b>acetone (67-64-1)</b>	
LC50 fish 2	5540 mg/l (LC50; EU Method C.1; 96 h; Salmo gairdneri; Static system; Fresh water; Experimental value)
EC50 Daphnia 2	12600 mg/l (LC50; Other; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)

### 12.2. Persistence and degradability

<b>SV Appendix IX Additions Spike</b>	
Persistence and degradability	Not established.

<b>diphenyl (92-52-4)</b>	
Persistence and degradability	Readily biodegradable in water. Forming sediments in water.
Biochemical oxygen demand (BOD)	1.08 g O <sub>2</sub> /g substance
ThOD	3.01 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.36

<b>acetone (67-64-1)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	1.43 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.92 g O <sub>2</sub> /g substance
ThOD	2.2 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.872 (20 days; Literature study)

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### 12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
diphenyl (92-52-4)	
BCF fish 1	437 (BCF)
BCF other aquatic organisms 1	540 (BCF; 24 h; Chlorella sp.)
Log Pow	3.16 - 4.09
Bioaccumulative potential	Potential for bioaccumulation ( $4 \geq \text{Log Kow} \leq 5$ ).
acetone (67-64-1)	
BCF fish 1	0.69 (BCF)
BCF other aquatic organisms 1	3 (BCF; BCFWIN)
Log Pow	-0.24 (Test data)
Bioaccumulative potential	Not bioaccumulative.

### 12.4. Mobility in soil

acetone (67-64-1)	
Surface tension	0.0237 N/m

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT  
Transport document description : UN1993 Flammable liquids, n.o.s. (diphenyl), 3, II  
UN-No.(DOT) : 1993  
DOT NA no. : UN1993  
Proper Shipping Name (DOT) : Flammable liquids, n.o.s.  
diphenyl  
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Hazard labels (DOT) : 3 - Flammable liquid



DOT Symbols : G - Identifies PSN requiring a technical name  
Packing group (DOT) : II - Medium Danger  
DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.  
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)  
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / 1 + a (tr - tf)$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.  
TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F).  
TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.  
DOT Packaging Exceptions (49 CFR 173.xxx) : 150  
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

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DOT Packaging Bulk (49 CFR 173.xxx) : 242  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L  
DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

### Additional information

Emergency Response Guide (ERG) Number : 128  
Other information : No supplementary information available.

### ADR

Transport document description :

### Transport by sea

UN-No. (IMDG) : 1993  
Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, N.O.S.  
Class (IMDG) : 3 - Flammable liquids  
Packing group (IMDG) : II - substances presenting medium danger

### Air transport

UN-No. (IATA) : 1993  
Proper Shipping Name (IATA) : Flammable liquid, n.o.s.  
Class (IATA) : 3 - Flammable Liquids  
Packing group (IATA) : II - Medium Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### diphenyl (92-52-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Subject to reporting requirements of United States SARA Section 313

CERCLA RQ : 100 lb

SARA Section 313 - Emission Reporting : 1 %

#### acetone (67-64-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

CERCLA RQ : 5000 lb

### 15.2. International regulations

#### CANADA

#### diphenyl (92-52-4)

Listed on the Canadian DSL (Domestic Substances List)

#### acetone (67-64-1)

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

#### acetone (67-64-1)

### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2 : H225  
Eye Irrit. 2 : H319  
STOT SE 3 : H336

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Full text of H statements : see section 16

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11  
Xi; R36  
R66  
R67

Full text of R-phrases: see section 16

#### 15.2.2. National regulations

<b>diphenyl (92-52-4)</b>
Listed on EPA Hazardous Air Pollutant (HAPS)
<b>acetone (67-64-1)</b>

#### 15.3. US State regulations

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U.S. - California - Proposition 65 - Carcinogens List	No			
U.S. - California - Proposition 65 - Developmental Toxicity	No			
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No			
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No			
diphenyl (92-52-4)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
acetone (67-64-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

### SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

### Hazard Rating

PHV SDS US

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