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1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier	
Product Identity	PERMA-SEEL SOLVENT
Alternate Names	Adhesive Solvent
1.2. Relevant identified uses of the s	ubstance or mixture and uses advised against
Intended use	Adhesive solvent
Application Method	See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet Company Name

The Dodge Company, Inc 9 Progress Road Billerica, MA 01821

Emergency CHEMTREC (USA) Customer Service The Dodge Company, Inc

(800) 424-9300

(800) 443-6343, (978) 600-2099

2. Hazard identification of the product

2.1. Classification of the substance or mixture

Flam. Liq. 2;H225	Highly Flammable liquid and vapor.
Acute Tox. 5;H303	May be harmful if swallowed. (Not adopted by US OSHA)
Acute Tox. 5;H313	May be harmful in contact with skin. (Not adopted by US OSHA)
Skin Irrit. 2;H315	Causes skin irritation.
Eye Irrit. 2;H319	Causes serious eye irritation.
STOT SE 3;H336	May cause drowsiness or dizziness.
Aquatic Chronic 2;H411	Toxic to aquatic life with long lasting effects.



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2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



Danger

H225 Highly flammable liquid and vapor.

H303 May be harmful if swallowed.

H313 May be harmful in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness and dizziness.

H411 Toxic to aquatic life with long lasting effects.

[Prevention]:

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.

P241 Use explosion-proof electrical / ventilating / light / equipment.

P261 Avoid breathing dust / fume / gas / mist / vapors / spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection / face protection.

[Response]:

P302+352 IF ON SKIN: Wash with plenty of soap and water.

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.

P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P321 Specific treatment (see information on this label).

P337+313 If eye irritation persists: Get medical advice / attention.

P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P362 Take off contaminated clothing and wash before reuse.

P370+378 In case of fire: Use extinguishing media listed in section 5 of SDS for extinction.

P391 Collect spillage.



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[Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

P405 Store locked up.

[Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.

3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
2-Propanone CAS Number: 0000067-64-1	50 - 75	Flam. Liq. 2;H225 Eye Irrit. 2;H319 STOT SE 3;H336	[1][2]
p-Chloro-a,a,a-trifluorotoluene CAS Number: 0000098-56-6	25 - 50	Flam. Liq. 3;H226 Skin Irrit. 2;H315 Eye Irrit. 2;H319 STOT SE 3;H335	[1]

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

General

Move victim to fresh air.

Call 911 or emergency medical service if deemed necessary. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions



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	to protect themselves.
Inhalation	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Eyes	Irrigate copiously with clean fresh water for at least 15 minutes, holding the eyelids apart and seek medical attention.
Skin	Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Shower and wash with soap and water. Keep victim warm and quiet.
Ingestion	DO NOT INDUCE VOMITING. This material is not soluble. DO NOT GIVE FLUIDS. If spontaneous vomiting is inevitable, PREVENT ASPIRATION by keeping the victim's head below the knees. CONTACT A PHYSICIAN IMMEDIATELY.
4.2. Most important syn	nptoms and effects, both acute and delayed
Overview	Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.
	Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage. See section 2 for further details.
Inhalation	May cause drowsiness or dizziness.
Eyes	Causes serious eye irritation.
Skin	May be harmful in contact with skin. (Not adopted by US OSHA) Causes skin irritation.
Ingestion	May be harmful if swallowed. (Not adopted by US OSHA)

5. Fire-fighting measures

5.1. Extinguishing media

Recommended extinguishing media; alcohol resistant foam, $\rm CO^2$, powder, water spray. Do not use; water jet.

5.2. Special hazards arising from the substance or mixture

Carbon Monoxide and Carbon Dioxide

Keep away from heat / sparks / open flames / hot surfaces - No smoking.

Use explosion-proof electrical / ventilating / light / equipment.

Avoid breathing dust / fume / gas / mist / vapors / spray.



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5.3. Advice for fire-fighters

Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control or dilution water may cause pollution.

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6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Water spray may reduce vapor; but may not prevent ignition in closed spaces.

6.2. Environmental precautions

Do not allow spills to enter drains or watercourses.

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up

Vapor is heavier than air and may flow along surface to distant ignition source and flashback.

Large Spill: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.

Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.



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7. Handling and storage

7.1. Precautions for safe handling

Store in accordance with the National Fire Protection Association's publication NFPA 30, Flammable and Combustible Liquids Code. 29 CFR 1910.106 applies to the handling, storage, and use of flammable and combustible liquids.

See section 2 for further details. - [Prevention]:

7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage. Incompatible materials: Store away from oxidizers and acids. See section 2 for further details. - [Storage]:

7.3. Specific end use(s)

No data available.

8. Exposure controls and personal protection

8.1. Control parameters

Exposure					
CAS No.	Ingestion	Source	Value		
0000067-64-1	2-Propanone	OSHA	TWA 1000 ppm (2400 mg/m3)STEL 2400 mg/m3		
		ACGIH	TWA: 250 ppmSTEL: 500 ppm Skin		
	NIOSH	250 ppm (590 mg/m3) TWA			
	Supplier	No Established Limit			
0000098-56-6 p-Chloro-a,a,a-trifluorotoluene	OSHA	No Established Limit			
	ACGIH	No Established Limit			
	NIOSH	No Established Limit			
		Supplier	No Established Limit		

Carcinogen Data

CAS No.	Ingestion	Source	Value
0000067-64-1	2-Propanone	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0000098-56-6	p-Chloro-a,a,a-trifluorotoluene	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;



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8.2. Exposure controls	
Respiratory	Not necessary where area is properly ventilated.
Eyes	Wear safety eyewear, e.g. safety spectacles, goggles or visors to protect against the splash of liquids.
Skin	Overalls which cover the body, arms and legs should be worn. Skin should not be exposed. All parts of the body should be washed after contact. Wear PVC or rubber gloves.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

9. Physical and chemical properties

Appearance Odor Odor threshold pH Melting point / freezing point (°C) Initial boiling point and boiling range (°C) Flash Point Evaporation rate (Ether = 1) Flammability (solid, gas) Upper/lower flammability or explosive limits

Vapor Density Specific Gravity Solubility in Water Partition coefficient n-octanol/water (Log Kow) Auto-ignition temperature (°C) Decomposition temperature Viscosity (cSt) VOC % Clear Colorless Liquid Aromatic Hydrocarbon Not Measured Not Measured Not Measured 150-154F (66-68C) < 73F (23C) >1 (Bu Acetate=1) Not Applicable Lower Explosive Limit: 1% **Upper Explosive Limit:** 13% Not Measured >1 0.99-1.00 Partial Not Measured Not Measured Not Measured Not Measured 100



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10. Stability and reactivity

10.1. Reactivity
Hazardous Polymerization will not occur.
10.2. Chemical stability
Stable under normal circumstances.
10.3. Possibility of hazardous reactions
No data available.
10.4. Conditions to avoid
Avoid contact with open flame, sparks or hot surfaces.
10.5. Incompatible materials
Store away from oxidizers and acids.
10.6. Hazardous decomposition products

Carbon Monoxide and Carbon Dioxide

11. Toxicological information

Acute toxicity

Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
2-Propanone - (67-64-1)	2,000.00, Rat - Category: 4	2,000.00, Rabbit - Category: 4	76.00, Rat - Category: NA	No data available	No data available
p-Chloro-a,a,a-trifluorotoluene - (98-56-6)	13,000.00, Rat - Category: NA	No data available	33.00, Rat - Category: NA	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).



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Item	Category	Hazard
Acute Toxicity (mouth)	5	May be harmful if swallowed. (Not adopted by US OSHA)
Acute Toxicity (skin)	5	May be harmful in contact with skin. (Not adopted by US OSHA)
Acute Toxicity (inhalation)		Not Applicable
Skin corrosion/irritation	2	Causes skin irritation.
Eye damage/irritation	2	Causes serious eye irritation.
Sensitization (respiratory)		Not Applicable
Sensitization (skin)		Not Applicable
Germ toxicity		Not Applicable
Carcinogenicity		Not Applicable
Reproductive Toxicity		Not Applicable
Specific target organ systemic toxicity (single exposure)	3	May cause drowsiness or dizziness.
Specific target organ systemic Toxicity (repeated exposure)		Not Applicable
Aspiration hazard		Not Applicable

12. Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
2-Propanone - (67-64-1)	100.00, Pimephales promelas	10.00, Daphnia magna	20.565 (72 hr), Ulva pertusa
p-Chloro-a,a,a-trifluorotoluene - (98-56-6)	11.50, Lepomis macrochirus	3.68, Daphnia magna	Not Available

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.



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12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

13. Disposal considerations

13.1. Waste treatment methods

Do not allow into drains or water courses. Wastes and emptied containers should be disposed of in accordance with regulations made under the Control of Pollution Act and the Environmental Protection Act.

14. Transport information

Using information provided in this data sheet advice should be obtained from the Waste Regulation Authority, whether the special waste regulations apply.

14.1. UN number 14.2. UN proper shipping nar 14.3. Transport hazard class(UN1993 Flammable liquids, n.o.s., (Acetone)	
DOT (Domestic Surface	Transportation)	IMO / IMDG (Ocean	Transportation)
DOT Proper Shipping Name	UN1993, Flammable liquids, n.o.s.,(Acetone), 3, II	IMDG Proper Shipping Name	Flammable liquids, n.o.s., (Acetone)
DOT Hazard Class DOT Label UN / NA Number	3 3 UN1993	IMDG Hazard Class Sub Class	3 Not Applicable
DOT Packing Group CERCLA/DOT RQ	ll 968 gal. / 8065 lbs.	IMDG Packing Group	II
14.4. Packing group14.5. Environmental hazardsIMDGMarine Pollut	ll ant: Yes (p-Chloro-a,a,a [,]	trifluorotoluene)	
14.6. Special precautions for Not Applicabl14.7. Transport in bulk accor Not Applicabl	e ding to Annex II of MAR	POL73/78 and the IBC Code	



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15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented. All ingredients of this product are listed on the TSCA (Toxic Substance Control Act) Inventory or are not required to be listed on the TSCA Inventory.

WHMIS Classification B2 D2B

US EPA Tier II Hazards

Fire: Yes Sudden Release of Pressure: No

Reactive: No

Immediate (Acute): Yes

Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs (lbs):

2-Propanone (5,000.00)

EPCRA 302 Extremely Hazardous : (No Product Ingredients Listed)

EPCRA 313 Toxic Chemicals: (No Product Ingredients Listed)

Proposition 65 - Carcinogens (>0.0%): (No Product Ingredients Listed)

- Proposition 65 Developmental Toxins (>0.0%): (No Product Ingredients Listed)
- Proposition 65 Female Repro Toxins (>0.0%): (No Product Ingredients Listed)
- Proposition 65 Male Repro Toxins (>0.0%): (No Product Ingredients Listed)
- N.J. RTK Substances (>1%) :

2-Propanone

Penn RTK Substances (>1%) :

2-Propanone



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16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H225 Highly flammable liquid and vapor.

- H226 Flammable liquid and vapor.
- H305 May be harmful if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H320 Causes eye irritation.
- H335 May cause respiratory irritation.
- H361 Suspected of damaging fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.

This is the first revision of this SDS format, changes from previous revision not applicable.

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