



**Material Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date 05/10/2010

Reviewed on 05/10/2010

**1 Product Identification**

- **Product Description**
- **Trade name:**
- **Product ID#:** **HOBBY ESSENCE**

**0.7726-H**

- **Product Use:** Thinner
- **Manufacturer/Supplier:**  
Johnson Matthey Inc.  
498 Acorn Lane  
Downingtown, PA 19335  
tel. 1 610 873-3200  
fax. 1 610 873-3255
- **Information department:** Product Safety Department 1 (610) 873-3200 M-F 8am-5pm
- **Emergency information:** 1 856 384-7050

**2 Composition/Data on components**

- **Chemical characterization**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Hazardous components:**

CAS: 95-50-1 EINECS: 202-425-9 RTECS: CZ 4500000	1,2-dichlorobenzene Xn, Xi, N; R 22-36/37/38-50/53 Warning: 4.1.A/1, 4.1.C/1; 3.1.O/4, 3.2/2, 3.3/2A, 3.8/3	25-50%
CAS: 8006-64-2 EINECS: 232-350-7 RTECS: YO8400000	Turpentine, oil Xn, Xi, N; R 10-20/21/22-36/38-43-51/53-65 Danger: 3.10/1 Warning: 2.6/3; 3.1.O/4, 3.1.D/4, 3.1.I/4, 3.2/2, 3.3/2A, 3.4.S/1 4.1.C/2	10-25%
CAS: 76-22-2 EINECS: 200-945-0 RTECS: EX1225000	bornan-2-one Xi, F; R 11-36/37/38 Warning: 2.7/2; 3.2/2, 3.3/2A, 3.8/3	10-25%
CAS: 108-94-1 EINECS: 203-631-1 RTECS: GW 1050000	cyclohexanone Xn; R 10-20 Warning: 2.6/3; 3.1.I/4	10-25%
CAS: 1330-20-7 EINECS: 215-535-7 RTECS: ZE 2100000	xylene, mixture of isomers Xn, Xi; R 10-20/21-38 Warning: 2.6/3; 3.1.D/4, 3.1.I/4, 3.2/2	5-10%
CAS: 108-93-0 EINECS: 203-630-6 RTECS: GV 7875000	cyclohexanol Xn, Xi; R 20/22-37/38 Warning: 3.1.O/4, 3.1.I/4, 3.2/2, 3.8/3	0.5-1%

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· Main components:		
CAS: 95-50-1 EINECS: 202-425-9 RTECS: CZ 4500000	1,2-dichlorobenzene ☒ Xn, ☒ Xi, ☒ N; R 22-36/37/38-50/53 Warning: ⚠ 4.1.A/1, 4.1.C/1; ⚠ 3.1.O/4, 3.2/2, 3.3/2A, 3.8/3	25-50%
CAS: 8006-64-2 EINECS: 232-350-7 RTECS: YO8400000	Turpentine, oil ☒ Xn, ☒ Xi, ☒ N; R 10-20/21/22-36/38-43-51/53-65 Danger: ⚠ 3.10/1 Warning: ⚠ 2.6/3; ⚠ 3.1.O/4, 3.1.D/4, 3.1.I/4, 3.2/2, 3.3/2A, 3.4.S/1 ⚠ 4.1.C/2	10-25%
CAS: 76-22-2 EINECS: 200-945-0 RTECS: EX1225000	bornan-2-one ☒ Xi, ☒ F; R 11-36/37/38 Warning: ⚠ 2.7/2; ⚠ 3.2/2, 3.3/2A, 3.8/3	10-25%
CAS: 108-94-1 EINECS: 203-631-1 RTECS: GW 1050000	cyclohexanone ☒ Xn; R 10-20 Warning: ⚠ 2.6/3; ⚠ 3.1.I/4	10-25%
CAS: 1330-20-7 EINECS: 215-535-7 RTECS: ZE 2100000	xylene, mixture of isomers ☒ Xn, ☒ Xi; R 10-20/21-38 Warning: ⚠ 2.6/3; ⚠ 3.1.D/4, 3.1.I/4, 3.2/2	5-10%
CAS: 84776-65-8 EINECS: 283-994-0	lavender oil Warning: 2.6/4	5-10%
CAS: 108-93-0 EINECS: 203-630-6 RTECS: GV 7875000	cyclohexanol ☒ Xn, ☒ Xi; R 20/22-37/38 Warning: ⚠ 3.1.O/4, 3.1.I/4, 3.2/2, 3.8/3	0.5-1%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

### 3 Hazards identification

· **Hazard description:**



Xn Harmful  
N Dangerous for the environment

· **Canadian Hazard Symbols**

B2 - Flammable liquid  
D1B - Toxic material causing immediate and serious toxic effects  
D2B - Toxic material causing other toxic effects



· **Information pertaining to particular dangers for man and environment:**

Flammable.  
Harmful by inhalation, in contact with skin and if swallowed.  
Irritating to eyes, respiratory system and skin.  
May cause sensitization by skin contact.  
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment  
Harmful: may cause lung damage if swallowed.

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· **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **GHS label elements**



- 3.1/3 - Toxic if inhaled.
- 3.1/4 - Harmful if swallowed.
- 3.1/4 - Harmful in contact with skin.
- 3.2/2 - Causes skin irritation.
- 3.3/2A - Causes serious eye irritation.
- 3.4/1 - May cause an allergic skin reaction.
- 3.8/3 - May cause respiratory irritation.



- 3.10/1 - May be fatal if swallowed and enters airways.



- 2.6/3 - Flammable liquid and vapour.



- 4.1/1 - Very toxic to aquatic life.
- 4.1/1 - Very toxic to aquatic life with long lasting effects.

· **Prevention:**

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

· **Response:**

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

· **Storage:**

Store locked up.

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**· Disposal:**

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

**4 First aid measures****· General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**· After inhalation:**

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen.

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

**· After skin contact:**

Remove contaminated clothing and wash skin with soap and water. Wash or clean clothing before reuse.

**· After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**· After swallowing:** Immediately call a doctor.**5 Fire fighting measures****· Suitable extinguishing agents:** CO<sub>2</sub>, sand, extinguishing powder. Do not use water.**· For safety reasons unsuitable extinguishing agents:**

Water

Water with full jet

**· Protective equipment:** Wear full firefighting gear and SCBA**6 Accidental release measures****· Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.**· Measures for environmental protection:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to enter sewers/ surface or ground water.

**· Measures for cleaning/collecting:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

**7 Handling and storage****· Handling:****· Information for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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· **Information about protection against explosions and fires:**



Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

· **Storage:**

- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

## 8 Exposure controls and personal protection

· **Additional information about design of technical systems:**

The application of this product requires well exhausted firing kilns and efficient ventilation of working areas.

· **Components with limit values that require monitoring at the workplace:**

There is no PEL established for this mixture. Recommend monitoring based upon the components in the mixture.

**95-50-1 1,2-dichlorobenzene**

PEL	Short-term value: C 300 mg/m <sup>3</sup> , C 50 ppm
REL	Short-term value: C 300 mg/m <sup>3</sup> , C 50 ppm
TLV	Short-term value: 301 mg/m <sup>3</sup> , 50 ppm Long-term value: 150 mg/m <sup>3</sup> , 25 ppm

**8006-64-2 Turpentine, oil**

PEL	560 mg/m <sup>3</sup> , 100 ppm
REL	560 mg/m <sup>3</sup> , 100 ppm
TLV	112 mg/m <sup>3</sup> , 20 ppm
	SEN

**108-94-1 cyclohexanone**

PEL	200 mg/m <sup>3</sup> , 50 ppm
REL	100 mg/m <sup>3</sup> , 25 ppm Skin
TLV	50 mg/m <sup>3</sup> , 20 ppm Skin

**1330-20-7 xylene, mixture of isomers**

PEL	435 mg/m <sup>3</sup> , 100 ppm
REL	Short-term value: 655 mg/m <sup>3</sup> , 150 ppm Long-term value: 435 mg/m <sup>3</sup> , 100 ppm
TLV	Short-term value: 651 mg/m <sup>3</sup> , 150 ppm Long-term value: 434 mg/m <sup>3</sup> , 100 ppm BEI

**108-93-0 cyclohexanol**

PEL	200 mg/m <sup>3</sup> , 50 ppm
REL	200 mg/m <sup>3</sup> , 50 ppm Skin
TLV	206 mg/m <sup>3</sup> , 50 ppm Skin

- **Additional information:** The lists that were valid during the creation were used as basis.

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- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.



Avoid contact with the eyes and skin.

- **Protection of hands:** Protective gloves
- **Material of gloves**  
Nitrile rubber, NBR  
Chemical resistant gloves
- **Eye protection:** Tightly sealed goggles

## 9 Physical and chemical properties

### · General Information

<b>Form:</b>	Fluid
<b>Color:</b>	According to product specification
<b>Odor:</b>	Characteristic

### · Change in condition

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	137°C (279°F)

· **Flash point:** 30°C (86°F) (ISO 3679)

· **Ignition temperature:** 220°C (428°F)

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

### · Explosion limits:

<b>Lower:</b>	0.8 Vol %
<b>Upper:</b>	12.0 Vol %

· **Vapor pressure at 20°C (68°F):** 5.4 hPa (4 mm Hg)

· **Density:** Not determined.

### · Solubility in / Miscibility with

**Water:** Not miscible or difficult to mix.

· **pH-value:** Neutral

### · Solvent content:

<b>Organic solvents:</b>	82.9 %
<b>Water:</b>	0.0 %
<b>Solvent (USA):</b>	82.9 %
	828.8 g/l / 6.92 lb/gal

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Solids content: 17.1 %

**10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Materials to be avoided:**
- **Dangerous reactions** No dangerous reactions known.
- **Dangerous products of decomposition:** No dangerous decomposition products known.

**11 Toxicological information**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

**95-50-1 1,2-dichlorobenzene**

Oral	LD50	500 mg/kg (rat)
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**76-22-2 bornan-2-one**

Oral	LD50	1310 mg/kg (mouse)
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**108-94-1 cyclohexanone**

Oral	LD50	1900 mg/kg (rat)
Dermal	LD50	948 mg/kg (rabbit)
Inhalative	LC50/4 h	8000 mg/l (rat)

**1330-20-7 xylene, mixture of isomers**

Oral	LD50	8700 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)
Inhalative	LC50/4 h	6350 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant

**12 Ecological information**

- **Ecotoxicological effects:**

- **Aquatic toxicity:**

**108-94-1 cyclohexanone**

Oral	EC50/48 h	820 mg/l (daphnia)
	LC50/48 h	536 mg/l (fish)
	LC50/96 h (dynamic)	527 mg/l (fish)

- **Remark:** Very toxic for fish

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- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.  
Also poisonous for fish and plankton in water bodies.  
Very toxic for aquatic organisms

### 13 Disposal considerations

- **Product:**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

· **DOT regulations:**



- **Hazard class:** 3
- **Identification number:** UN1992
- **Packing group:** III
- **Proper shipping name (technical name):** FLAMMABLE LIQUID, TOXIC, N.O.S. (TURPENTINE, ortho-DICHLOROBENZENE)
- **Label:** 3+6.1

· **Land transport ADR/RID (cross-border):**



- **ADR/RID class:** 3 Flammable liquids
- **Danger code (Kemler):** 36
- **UN-Number:** 1992
- **Packaging group:** III
- **Description of goods:** 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (TURPENTINE, ortho-DICHLOROBENZENE)

· **Maritime transport IMDG:**



- **IMDG Class:** 3
- **UN Number:** 1992

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· <b>Label</b>	3+6.1
· <b>Packaging group:</b>	III
· <b>EMS Number:</b>	F-E,S-D
· <b>Marine pollutant:</b>	Yes
· <b>Segregation groups</b>	Liquid halogenated hydrocarbons
· <b>Proper shipping name:</b>	FLAMMABLE LIQUID, TOXIC, N.O.S. (TURPENTINE, ortho-DICHLOROBENZENE)

· **Air transport ICAO-TI and IATA-DGR:**

· <b>ICAO/IATA Class:</b>	3
· <b>UN/ID Number:</b>	1992
· <b>Label</b>	3+6.1
· <b>Packaging group:</b>	III
· <b>Proper shipping name:</b>	FLAMMABLE LIQUID, TOXIC, N.O.S. (TURPENTINE, ortho-DICHLOROBENZENE)

· **UN "Model Regulation":** UN1992, FLAMMABLE LIQUID, TOXIC, N.O.S., 3 (6.1), III

### 15 Regulations

· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

95-50-1 | 1,2-dichlorobenzene

1330-20-7 | xylene, mixture of isomers

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Canadian Ingredient disclosure list**· **Limit 0,1%**

108-94-1 | cyclohexanone

· **Limit 1%**

95-50-1 | 1,2-dichlorobenzene

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8006-64-2	Turpentine, oil		
<b>· Cancerogenity categories</b>			
<b>· EPA (Environmental Protection Agency)</b>			
95-50-1	1,2-dichlorobenzene		D
1330-20-7	xylene, mixture of isomers		I
<b>· IARC (International Agency for Research on Cancer)</b>			
95-50-1	1,2-dichlorobenzene		3
108-94-1	cyclohexanone		3
1330-20-7	xylene, mixture of isomers		3
<b>· NTP (National Toxicology Program)</b>			
None of the ingredients is listed.			
<b>· TLV (Threshold Limit Value established by ACGIH)</b>			
95-50-1	1,2-dichlorobenzene		A4
76-22-2	bornan-2-one		A4
108-94-1	cyclohexanone		A3
1330-20-7	xylene, mixture of isomers		A4
<b>· MAK (German Maximum Workplace Concentration)</b>			
8006-64-2	Turpentine, oil	3A	21.13%
108-94-1	cyclohexanone	3B	15.85%
<b>· NIOSH-Ca (National Institute for Occupational Safety and Health)</b>			
None of the ingredients is listed.			
<b>· OSHA-Ca (Occupational Safety &amp; Health Administration)</b>			
None of the ingredients is listed.			

· **Product related hazard informations:** The product has been marked in accordance with national laws.

· **Hazard symbols:**

Xn Harmful

N Dangerous for the environment

· **Hazard-determining components of labelling:**

Turpentine, oil

1,2-dichlorobenzene

· **Risk phrases:**

Flammable.

Harmful by inhalation, in contact with skin and if swallowed.

Irritating to eyes, respiratory system and skin.

May cause sensitization by skin contact.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Harmful: may cause lung damage if swallowed.

· **Safety phrases:**

Keep container in a well-ventilated place.

Do not breathe gas/fumes/vapour/spray.

Avoid contact with eyes.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable protective clothing and gloves.

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Use appropriate container to avoid environmental contamination.

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**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant R-phrases**

- 10 Flammable.
- 11 Highly flammable.
- 20 Harmful by inhalation.
- 20/21 Harmful by inhalation and in contact with skin.
- 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- 20/22 Harmful by inhalation and if swallowed.
- 22 Harmful if swallowed.
- 36/37/38 Irritating to eyes, respiratory system and skin.
- 36/38 Irritating to eyes and skin.
- 37/38 Irritating to respiratory system and skin.
- 38 Irritating to skin.
- 43 May cause sensitization by skin contact.
- 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- 65 Harmful: may cause lung damage if swallowed.

· **Contact:**

M. Musetti  
EHS/Q Manager

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
 ICAO: International Civil Aviation Organization  
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 WHMIS: Workplace Hazardous Materials Information System (Canada)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent

· **\* Data compared to the previous version altered.**