

# 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

## 1.1 Product identifiers

Product name : BDE No 49 solution

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

Identified uses : Laboratory chemicals, Manufacture of substances

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Flammable liquids (Category 2)  
Aspiration hazard (Category 1)  
Skin irritation (Category 2)  
Specific target organ toxicity - single exposure (Category 3)  
Acute aquatic toxicity (Category 1)  
Chronic aquatic toxicity (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Highly flammable. Harmful: may cause lung damage if swallowed. Irritating to skin. Vapours may cause drowsiness and dizziness. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Highly flammable. Harmful: may cause lung damage if swallowed. Irritating to skin. Vapours may cause drowsiness and dizziness. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Highly flammable. Harmful: may cause lung damage if swallowed. Irritating to skin. Vapours may cause drowsiness and dizziness. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 2.2 Label elements

Labeling according Regulation (EC) No 1272/2008 [CLP]

Pictogram 

Signal word : Danger

Hazard statement(s)  
H225 : Highly flammable liquid and vapour.  
H304 : May be fatal if swallowed and enters airways.  
H315 : Causes skin irritation.  
H336 : May cause drowsiness or dizziness.  
H410 : Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)  
P210 : Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P261 : Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P273 : Avoid release to the environment.  
P301 + P310 : IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P331 : Do NOT induce vomiting.  
P501 : Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements : none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s) 

R-phrases(s)  
R11 : Highly flammable.  
R38 : Irritating to skin.  
R65 : Harmful: may cause lung damage if swallowed.  
R67 : Vapours may cause drowsiness and dizziness.  
R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases(s)  
S9 : Keep container in a well-ventilated place.  
S16 : Keep away from sources of ignition - No smoking.  
S29 : Do not empty into drains.  
S33 : Take precautionary measures against static discharges.  
S60 : This material and its container must be disposed of as hazardous waste.  
S61 : Avoid release to the environment. Refer to special instructions/ Safety data sheets.  
S62 : If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

### 2.3 Other hazards - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixtures

Synonyms : 2,2',4,5'-Tetrabromodiphenyl ethersolution  
2,2',4,5'-TetraBDE  
PBDE 49

Formula : C12H6Br4O

Component	Classification	Concentration
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<b>2,2,4-Trimethylpentane</b>		
CAS-No. 540-84-1	Flam. Liq. 2; Asp. Tox. 1; Skin	≥= 99,9 %
EC-No. 208-759-1	Irrit. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1; H225, H304, H315, H336, H410	
	F, Xn, N, R11 - R38 - R65 - R67 - R50/53	

<b>2,2',4,5'-Tetrabromodiphenyl ether</b>		
CAS-No. 243982-82-3	-	≤= 0,01 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**General advice**  
Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**  
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**  
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**  
Flush eyes with water as a precaution.

**If swallowed**  
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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

no data available

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing media**  
For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

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

Carbon oxides

### 5.3 Precautions for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

### 6.4 Reference to other sections

For disposal see section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

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

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature: 2 - 8 °C

### 7.3 Specific end uses

no data available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

**Components with workplace control parameters**

### 8.2 Exposure controls

**Appropriate engineering controls**  
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Eye/face protection**  
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**  
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Body Protection**  
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**  
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purposing combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance : Form: clear, liquid  
Colour: colourless

b) Odour : no data available

c) Odour Threshold : no data available

d) pH : no data available

e) Melting/freezing point : Melting point/range: -107 °C

f) Initial boiling point and boiling range : 98 - 99 °C at 1.013 hPa

g) Flash point : -12 °C

h) Evaporation rate : no data available

i) Flammability (solid, gas) no data available

j) Upper/lower flammability or explosive limits : Upper explosion limit: 6 %(V)  
Lower explosion limit: 1 %(V)

k) Vapour pressure : 55 hPa at 21 °C

l) Vapour density : no data available

m) Relative density : 0,690 g/cm3

n) Water solubility : insoluble

o) Partition coefficient: n-octanol/water : no data available

p) Autoignition temperature : 396 °C

q) Decomposition temperature : no data available

r) Viscosity : no data available

s) Explosive properties : no data available

t) Oxidizing properties : no data available

### 9.2 Other safety information

no data available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**  
no data available

**Skin corrosion/irritation**  
no data available

**Serious eye damage/eye irritation**  
no data available

**Respiratory or skin sensitization**  
no data available

**Germ cell mutagenicity**  
no data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**  
no data available

**Specific target organ toxicity - single exposure**  
no data available

**Specific target organ toxicity - repeated exposure**  
no data available

**Aspiration hazard**  
no data available

**Potential health effects**

**Inhalation** : May be harmful if inhaled. Causes respiratory tract irritation. Vapours may cause drowsiness and dizziness.

**Ingestion** : May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.

**Skin** : May be harmful if absorbed through skin. Causes skin irritation.

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**  
RTECS: Not available

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

no data available

### 12.6 Other adverse effects

Very toxic to aquatic life with long lasting effects.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Product**  
Burn in a chemical incinerator equipped with an after-burner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**  
Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### 14.1 UN-Number

ADR/RID: 1262 : IMDG: 1262 : IATA: 1262

### 14.2 UN proper shipping name

ADR/RID: OCTANES, SOLUTION  
IMDG: OCTANES, SOLUTION  
IATA: OCTANES, SOLUTION

### 14.3 Transport hazard class(es)

ADR/RID: 3 : IMDG: 3 : IATA: 3

### 14.4 Packaging group

ADR/RID: II : IMDG: II : IATA: II

### 14.5 Environmental hazards

ADR/RID: no : IMDG Marine pollutant: no : IATA: no

### 14.6 Special precautions for users

no data available

## 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

### 15.2 Chemical Safety Assessment

no data available

## 16. OTHER INFORMATION

**Text of H-code(s) and R-phrases(s) mentioned in Section 3**

Aquatic Acute : Acute aquatic toxicity  
Aquatic Chronic : Chronic aquatic toxicity  
Asp. Tox. : Aspiration hazard  
Flam. Liq. : Flammable liquids  
H225 : Highly flammable liquid and vapour.  
H304 : May be fatal if swallowed and enters airways.  
H315 : Causes skin irritation.  
H336 : May cause drowsiness or dizziness.  
H410 : Very toxic to aquatic life with long lasting effects.  
Skin Irrit. : Skin irritation  
STOT SE : Specific target organ toxicity - single exposure  
F : Highly flammable  
N : Dangerous for the environment  
Xn : Harmful  
R11 : Highly flammable.  
R38 : Irritating to skin.  
R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R65 : Harmful: may cause lung damage if swallowed.  
R67 : Vapours may cause drowsiness and dizziness.

**Further information**

For R&D use only. Not for drug, household or other uses.

**WARRANTY:**  
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. LookChem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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