COSHH essentials

Working Group on Action to Control Chemicals
COSHH essentials

INHALATION

HAZARD BANDING

EXPOSURE BANDING

AMOUNT

DUSTINESS / VOLATILITY

BROAD CONTROL APPROACH + GUIDANCE ON TASK
COSHH essentials

<table>
<thead>
<tr>
<th>Least hazardous</th>
<th>Most hazardous</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td><strong>B</strong></td>
</tr>
<tr>
<td>Skin, eye irritants; unclassified</td>
<td>Harmful on single exposure</td>
</tr>
<tr>
<td>R36</td>
<td>R20</td>
</tr>
<tr>
<td>R38</td>
<td>R21</td>
</tr>
<tr>
<td>All other R</td>
<td>R22</td>
</tr>
<tr>
<td>No R</td>
<td></td>
</tr>
</tbody>
</table>

S – causes harm in contact with skin and/or eyes
COSHH essentials

HAZARD BANDS
A – skin / eye irritant
B – harmful
C – severe irritant, toxic, corrosive, skin sensitiser
D – very toxic, harmful to reproduction
E – cancer, genetic damage, asthma

EXPOSURE BANDS
Amount:
- Small (g, ml)
- Medium (kg, l)
- Large (t, m3)
Dispersion Potential:
- Low (pellets or BP >150C)
- Medium (granule or BP 50-150C)
- High (powder or BP <50C)

INCREASING RISK
COSHH essentials

<table>
<thead>
<tr>
<th>Hazard Group</th>
<th>Associated exposure band - dust</th>
<th>Associated exposure band - vapour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1 to 10 mg/m³</td>
<td>50 to 500 ppm</td>
</tr>
<tr>
<td>B</td>
<td>0.1 to 1 mg/m³</td>
<td>5 to 50 ppm</td>
</tr>
<tr>
<td>C</td>
<td>0.01 to 0.1 mg/m³</td>
<td>0.5 to 5 ppm</td>
</tr>
<tr>
<td>D</td>
<td>&lt; 0.01 mg/m³</td>
<td>&lt; 0.5 ppm</td>
</tr>
</tbody>
</table>
COSHH essentials

Dustiness of solid

Vollatility of liquid

Amount

Small

Medium

Large

Operating temperature (°C)

Boiling point (°C)

Low Volatility

Medium Volatility

High Volatility

Small

Medium

Large

Low

Medium

High
COSH essentials

Hazard          Assessment          Control

Collects data:
- unit operation
- chemical / product
- risk [R] phrases
- amount used
- volatility / dustiness
- process temperature
- task duration

Produces:
- control solutions
  (Control Guidance Sheets)
- assessment log
  (evidence of assessment)
COSHES essentials

1. GENERAL VENTILATION
   A good standard of general ventilation

2. ENGINEERING CONTROL
   LEV eg single-point extractor close to source, ventilated partial enclosure.

3. CONTAINMENT
   Enclose or contain – small breaches may be OK

4. SPECIAL
   Expert advice is needed – seek help

Least reduction in exposure

Most reduction in exposure

Get advice
COSHH essentials

access
design and equipment (with illustration)
maintenance
examination and testing
cleaning
PPE (plus another sheet for Control Approach ‘S’)
training
supervision
employee checklist
COSH essentials

Limitations:
- Simplistic
- Tendency to over-precaution
- Unsuitable for gases, process emissions, etc.
- Refers higher risks for expert advice
- Skin exposure handled poorly
## e-COSHH essentials

<table>
<thead>
<tr>
<th>Internet product</th>
<th>Release 1: April 2002</th>
<th>Release 2: October 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- liquids and solids</td>
<td>- rubber, foundry, wood</td>
</tr>
<tr>
<td></td>
<td>- mixtures</td>
<td>- flour, isocyanate in MVR</td>
</tr>
<tr>
<td></td>
<td>- inhalation exposure</td>
<td>- commercial and retail</td>
</tr>
<tr>
<td></td>
<td>- common processes</td>
<td>- special advice</td>
</tr>
</tbody>
</table>

**Missing:**
- asbestos, lead, gases, skin exposure, other process emissions, RPE, safety, environment, etc.
e-COSHH essentials

www.coshh-essentials.org.uk

Worked examples:
1 – Curtain coating and drying
2 – Spraying a very large casting
COSHH ESSENTIALS

Easy steps to control health risks from chemicals

COSHH Essentials provides advice on controlling the use of chemicals for a range of common tasks, eg mixing, or drying. Click here for an example of the type of advice you will receive.

For most tasks this website will take you through a number of steps and ask for information about your tasks and chemicals. This assessment will take several minutes to complete.

But for some processes, tasks or services you can now get direct advice. Click here for an example of the type of advice you will receive.

Click here to get started
1 – Drying

GETTING STARTED

You have 4 choices:

1. Find out what the law says and how COSHH Essentials works (we recommend that you choose this option first if you have not used COSHH Essentials before).

2. Start a new assessment (to provide this information you will need a safety data sheet for each chemical to supply details such as risk phrases (R-phrases)).

3. Return to an assessment you have completed during the last 30 days. Please enter here the assessment code that was generated by COSHH Essentials.

4. Direct advice topics
1 – Drying

PROCESS AND TASKS

Please complete the following 2 sections, then click ‘Go’ at the bottom of the page:

1. You may find it helpful for your records to enter a process name here. This can be a simple description of the job you are doing, eg car spraying or anything that means something to you. You may leave this blank. [drying]

2. You probably do one or more of the following tasks when carrying out this process. Please choose all those that apply from this list by clicking the box next to it. If none of these tasks apply, COSHH Essentials will still give you general advice to help you protect people from the ill effects of chemicals.

   - Transferring
   - Pelletising
   - Surface coating
   - Dust extraction
   - Drying
   - Screening
   - Mixing
   - Laminating
   - Dipping
   - Sieving
   - Weighing
   - Storing

   [ ] None of the above
COSHH Essentials has given the assessment code **TF18264654** to this assessment. You or your firm cannot be identified in any way from this code. You should keep a copy of this code in case you want to return to the assessment within 30 days. It will be printed out at the end as part of your assessment summary.

You have two choices:

1. Please enter the number of chemicals or products you are using in this task

2. Sometimes you may be using a mixture made by yourself before starting this task. If so, please enter the number of chemicals in the mixture
1 – Drying

<table>
<thead>
<tr>
<th>Chemical or product name</th>
<th>Solid or Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>white No 38</td>
<td>Liquid</td>
</tr>
</tbody>
</table>

*Please enter the chemical name for each of the substances in the assessment or you may enter the name that appears on the label. Then click on 'Go'. It is not important to COSHH Essentials to get the name exactly right. This is for your records only.*
1 – Drying

Paint
R10 R65

<table>
<thead>
<tr>
<th>HOW HARMFUL?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment code</td>
</tr>
<tr>
<td>Process name</td>
</tr>
<tr>
<td>Task (1 of 1)</td>
</tr>
<tr>
<td>Chemical name (1 of 1)</td>
</tr>
<tr>
<td>State</td>
</tr>
</tbody>
</table>

You are using 1 chemical.

You now need to enter the R-phrases (R-phrases) numbers that appear at section 15 of your safety data sheet. Then click Go! at the bottom of the screen. It is very important that you enter the numbers shown and in the right groupings.

Important note: If you have R-phrases on your safety data sheet, which do not appear in the list below, they may be hazardous to health. Other R-phrases are about safety or environmental risks. Simply choose from your safety data sheet those R-phrases which do appear in the list so COSHH Essentials can work out a hazard group for the chemical. If none of the numbers on your data sheet appear in the list, or there are no R-phrases given, please click in the last box on the list “None of the above R-phrases apply”.

<table>
<thead>
<tr>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>R5</th>
<th>R6</th>
</tr>
</thead>
<tbody>
<tr>
<td>R22</td>
<td>R23</td>
<td>R24</td>
<td>R25</td>
<td>R26</td>
</tr>
<tr>
<td>R27</td>
<td>R28</td>
<td>R29</td>
<td>R30</td>
<td>R31</td>
</tr>
<tr>
<td>R32</td>
<td>R33</td>
<td>R34</td>
<td>R35</td>
<td>R36</td>
</tr>
<tr>
<td>R37</td>
<td>R38</td>
<td>R39</td>
<td>R40</td>
<td>R41</td>
</tr>
<tr>
<td>R42</td>
<td>R43</td>
<td>R44</td>
<td>R45</td>
<td>R46</td>
</tr>
<tr>
<td>R47</td>
<td>R48</td>
<td>R49</td>
<td>R50</td>
<td>R51</td>
</tr>
</tbody>
</table>

Help on R65

May cause long-term damage if swallowed

If you wish to see a full description of what the R-phrases mean click here.
1 – Drying

HAZARD GROUP

Assessment code: TF18264654
Process name: drying
Task (1 of 1): Drying
Chemical name (1 of 1): white No 38
State: Liquid
R-phrase numbers: R65
Hazard group: A

You are using 1 chemical.

Please read this information and then click 'Go' at the bottom of the page.

The chemical white No 38 belongs to the hazard group: A

In some circumstances experts with detailed information on the chemical can override the hazard grouping. Click here to do this.
1 – Drying

**COSHH ESSENTIALS**

Easy steps to control health risks from chemicals

---

**FORM : HOW MUCH OF THE CHEMICAL CAN GET INTO THE AIR ?**

<table>
<thead>
<tr>
<th>Assessment code</th>
<th>TF10264654</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process name</td>
<td>drying</td>
</tr>
<tr>
<td>Task (1 of 1)</td>
<td>Drying</td>
</tr>
<tr>
<td>Chemical name (1 of 1)</td>
<td>white No 36</td>
</tr>
<tr>
<td>State</td>
<td>Liquid</td>
</tr>
<tr>
<td>R-phrases numbers</td>
<td>R65</td>
</tr>
<tr>
<td>Hazard group</td>
<td>A</td>
</tr>
</tbody>
</table>

You are using 1 chemical

What you have to do to protect yourself and others from the ill effects of chemicals, depends on how easily they get into the air. In other words, for liquids, how volatile they are. COSHH Essentials calculates volatility from your operating temperature and either the chemical's boiling point or vapour pressure.

Please enter the information on your chemical's volatility from section 9 of your safety data sheet, then click 'Go'.

**Operating temperature**

80 °C

You now have two options:

1. **Boiling point**

85 °C

If a range is given enter the lowest figure
1 – Drying

HOW MUCH ARE YOU USING AND HOW OFTEN?

Assessment code: TF19264654
Process name: drying
Task (1 of 1): Drying
Chemical name (1 of 1): white No 38
State: Liquid
R-phrase numbers: R65
Hazard group: A

You are using 1 chemical

Choose the quantity used:
- Small - millilitres
- Medium - litres
- Large - cubic metres

How many times a day do you carry out this drying task? [ ]
How long in minutes does the drying task take? [ ]
1 – Drying

COSHHESSSENTIALS

SUMMARY OF USER INPUT

Your assessment code : TF18264654
Process name : drying
Task : Drying

Congratulations! You have now input all the information needed for COSHH Essentials to carry out a risk assessment for 1 chemical. You should now print off the control guidance sheets offered to you, check that your controls meet those recommended and follow the actions suggested.

Below is a summary of the information you have input. If you think you have made a mistake or you wish to change any of the information, please click here to edit the information on this task.

To obtain more details on the summary, click on any of the terms below.

<table>
<thead>
<tr>
<th>Chemical or product name :</th>
<th>white No 38</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-phrases :</td>
<td>R66</td>
</tr>
<tr>
<td>State :</td>
<td>Liquid</td>
</tr>
<tr>
<td>Operating temperature :</td>
<td>80 °C</td>
</tr>
<tr>
<td>Boiling point :</td>
<td>85 °C</td>
</tr>
<tr>
<td>Hazard group :</td>
<td>A</td>
</tr>
<tr>
<td>Quantity used :</td>
<td>Large</td>
</tr>
<tr>
<td>How many times a day ?</td>
<td>1 time a day</td>
</tr>
<tr>
<td>How long does the task take ?</td>
<td>99 minutes</td>
</tr>
</tbody>
</table>

For details of the guidance sheets and other essential information, click on the 'Go' button below.
1 – Drying

Having assessed the 1 chemical used in this task, COSHH Essentials has calculated that you need to use control approach "Engineering Control". This is based on the highest hazard found

The guidance sheets listed below give you advice on areas such as design and equipment, maintenance, examination and testing, cleaning and housekeeping, personal protective equipment, training and supervision.

You should now print off the guidance sheets and also print off the summary of your assessment for your records. The summary will also give you important information about what you should do to put the advice into practice and other action you may need to take.

Please note: The summary and guidance sheets provided below are PDF files. To view these files, you have to have Adobe Acrobat Reader installed. If you do not have Acrobat Reader installed, click the button to download and install the latest version. THIS SOFTWARE HAS BEEN CHECKED FOR VIRUSES AND IS COMPLETELY SAFE TO DOWNLOAD.

Download the summary of your assessment here:

<table>
<thead>
<tr>
<th>Task Name</th>
<th>Guidance Sheet Title</th>
<th>Number</th>
<th>Download</th>
</tr>
</thead>
<tbody>
<tr>
<td>General tasks</td>
<td>Local exhaust ventilation</td>
<td>G200</td>
<td></td>
</tr>
<tr>
<td>Drying</td>
<td>Continuous drying labyrinth oven</td>
<td>G229</td>
<td></td>
</tr>
</tbody>
</table>

Recommended control approach: Engineering Control
2 – Spray coating

PROCESS AND TASKS

Please complete the following 2 sections, then click 'Go' at the bottom of the page:

1. You may find it helpful for your records to enter a process name here. This can be a simple description of the job you are doing, e.g. car spraying or anything that means something to you. You may leave this blank.

2. You probably do one or more of the following tasks when carrying out this process. Please choose all those that apply from this list by clicking the box next to it. If none of these tasks apply, COSHH Essentials will still give you general advice to help you protect people from the ill effects of chemicals.

- Transferring
- Pelletising
- Surface coating
- Dust extraction
- Drying
- Screening
- Mixing
- Laminating
- Dipping
- Sieving
- Weighing
- Storing

None of the above

<<Back Go
2 – Spray coating

Please enter the chemical name for each of the substances in the assessment or you may enter the name that appears on the label. Then click on 'Go'. It is not important to COSHH Essentials to get the name exactly right. This is for your records only.

<table>
<thead>
<tr>
<th>Chemical or product name</th>
<th>Solid or Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>SrCrO₄</td>
<td>Liquid</td>
</tr>
</tbody>
</table>
2 – Spray coating

LEAD WARNING

THE SUBSTANCE ‘strontium lead chromate’ THAT YOU HAVE ENTERED IS A FORM OF LEAD.

COSH H Essentials does not give guidance for this substance.

If you wish to see free guidance on the control of exposure to lead, click on the following:
Lead and you INDG305

Or you may enter hsedirect for further priced guidance.

<< Back
2 – Spray coating

GETTING STARTED

You have 4 choices:

1. Find out what the law says and how COSHH Essentials works (we recommend that you choose this option first if you have not used COSHH Essentials before).

2. Start a new assessment (to provide this information you will need a safety data sheet for each chemical to supply details such as risk phrases (R-phrases)).

3. Return to an assessment you have completed during the last 30 days. Please enter here the assessment code that was generated by COSHH Essentials.

4. **NEW** Direct advice topics
2 – Spray coating

DIRECT ADVICE

Please select an industry of interest below.

Then click 'Go' at the bottom of the page. It will give you a list of related processes, tasks or services from which you can go straight to the appropriate guidance sheets. You may return to this page as many times as you like without needing an assessment code.

Production industries
Service industries

<<Back Go

Production industries
Industries which manufacture or process materials or goods eg chemical industry, food production or metal production. Currently available are: Flour milling and craft bakery; Foundry work; Printing; Rubber making; and Woodwork.

Close
2 – Spray coating

DIRECT ADVICE

Please select from one of the options below.

Then click 'Go' at the bottom of the page. It will give you a list of related processes, tasks or services from which you can go straight to the appropriate guidance sheets. You may return to this page as many times as you like without needing an assessment code.

- Flour milling and craft bakery
- Foundry work
- Rubber making
- Woodwork
- Printing

[Foundry work]
Melting and casting metal into sand moulds. Cleaning the cast and other jobs.
2 – Spray coating

DIRECT ADVICE

Please select one or MORE of the options below.

Then click 'Go' at the bottom of the page. It will give you a list of related processes, tasks or services from which you can go straight to the appropriate guidance sheets. You may return to this page as many times as you like without needing an assessment code.

**Fettling and cleaning castings**
- Dust and fume when thermal cutting and gouging
- Dust when fettling larger castings
- Dust when fettling smaller castings
- Dust when shotblasting smaller castings in a cabinet

**Other tasks**
- Dust and sludge when cleaning dust collectors
- Fume from pattern assembly (investment casting)
- Mist and vapour from spray coating a large casting (open workshop)

**Melting and casting**
- Foundry fume from melting
- Foundry fume when ladle pouring
- Fume and general ventilation

**Work with sand**
- Dust and fume in knock-out, shakeout and attrition
- Dust and vapour in smaller scale coremaking/shell moulding
- Foundry dust - sand plant

Select all  

<<Back  Go
2 – Spray coating

DIRECT ADVICE

Steps to control health risks in Foundry work

You have selected the following control guidance sheets. Some will be directly relevant to your situation. Others, while drafted for another industry sector, may still contain useful information. A few are offered automatically.

Please note: The summary and guidance sheets provided below are PDF files. To view these files, you have to have Adobe Reader installed. If you do not have Acrobat Reader installed, click the button to download and install the latest version. THIS SOFTWARE HAS BEEN CHECKED FOR VIRUSES AND IS COMPLETELY SAFE TO DOWNLOAD.

Selected Guidance sheets: Foundry work

- Other tasks - Foundry work
  - Mist and vapour from spray coating a large casting (open workshop)
  - FD12

Download the direct advice summary here:

Additional relevant guidance sheets:

Other guidance sheets you may find useful

Your task involves exposure to a substance for which health surveillance for asthma is needed. The following Guidance Sheet applies:

- Health surveillance for occupational asthma
  - G402

Your task involves chemicals causing harm via skin contact. Hence the following Guidance Sheets are recommended:

- General Advice
  - S100
- Selection of personal protective equipment - skin
  - S101

Look at the control guidance sheets offered and compare them with your current practice.
2 – Spray coating

Mist and vapour – spray coating a large casting (open workshop)

Health surveillance for occupational asthma

Selection of personal protective equipment

COSHH Essentials

Direct Advice Summary Page

This risk assessment has been carried out using COSHH Essentials on the Internet. COSHH Essentials has been developed by the Health and Safety Executive, in collaboration with industry and the TUC. It provides simple step-by-step guidance for small businesses to control health risks to workers from chemicals.

You took the option to look at the direct advice available under COSHH Essentials and selected the industry and tasks of interest. COSHH Essentials then worked out the control measures needed to control exposure to protect the health of workers. Information on the control measures needed is shown on Control Guidance Sheet(s) which should be printed off and be attached to this direct advice summary. You now need to take action to put the control measures recommended in place.
e-COSHH essentials

What next?

Respirable crystalline silica
Printing
Welding, cutting and allied activities
Selection of RPE and PPE
Skin exposure
Gases
Asthmagens in agriculture
e-COSHH essentials

Thank you.

Any questions?