

Hardmetal Exposure Study

硬质合金暴露研究

- Background
- 背景
- About the BGIA
- 关于BGIA
- Exposure Measurements and Results
- 暴露测量和结果
- Study Benefits
- 研究成果

Background and Scope

背景和范围

- July 2006 Classification of hardmetal dust exposure (WC and Co) by IARC
- IARC在2006年7月关于硬质合金粉尘暴露的分类（碳化钨和钴）
- 2004 Recommendation of a cancer classification by the German classification expert panel (MAK)
- 德国在2004年对癌症分类的建议
- 2007 A Project Group of worker's compensation organizations was established to:
- 2007年工人保险组织项目组成立：
 1. Investigate current exposure situation in the german industry regarding
 2. 调查德国工业目前暴露状况
 3. Develop a recommendation to the industry to for safe work in the hardmetal industry.
 4. 给硬质合金同行业提出安全操作建议

About the BGIA

关于BGIA

- BGIA - An institute for research and testing of the German Berufsgenossenschaften (BG)
- BGIA-一个德国工人保险组织的研究和测试协会
 - the institutions for statutory accident insurance and prevention in Germany.
 - 该协会是法定事故保险和预防的代理
- BGIA - Located in Sankt Augustin near Bonn/Germany.
BGIA-坐落在德国的Bonn附近的Sankt Augustin,
- Homepage <http://www.hvbg.de/e/bia/index.html>



Mission of BGIA

BGIA的任务

- The solves scientific and technical problems relating to safety and health protection at work
- 为解决工作中的潜在的与安全和健康有关的科学和技术问题
 - testing of products and material samples
 - 测试产品和材料样品
 - workplace measurements and advice
 - 车间测量和建议
 - participation in standardization and reulation setting bodies
 - 参与标准和法规的
- The BGIA reaches out internationally
- BGIA是跨国国际组织
 - Works closely with over 23 Occupational Safety and Health organizaitons from 20 countries
 - 与20个国家，超过23个职业安全和健康组织紧密工作

Exposure Measurement Campaign

暴露测量活动

- The Campaign to investigate hardmetal exposure started in 2007 and was finished in July 2008
调查硬质合金暴露活动开始与2007年，与2008年7月结束
- In total 2252 single measurements in more than 100 company locations were performed
在超过100个公司中总共做了2252个测试
- The quantitative analysis and evaluation of the measurements is ongoing and will be completed at the end of calendar year 2008
定量分析和定性分析正在进行中，将于2008年底结束
- Preliminary results will be presented in the next slides
初步结果请看后页

Measurements of Various Materials

测试不同的材料

Hazardous substance	Number		
危险材料	数量		
Dust, inhalable fraction	253	Cooling lubricants, aerosol	42
粉尘,		冷却润滑剂, 雾状	
Dust, alveolar fraction	247	Titanium and its compounds	143
粉尘,		钛及其化合物	
Tungsten and its compounds	249	Tantalum and its compounds	155
钨及其化合物		钽及其化合物	
Cobalt and its compounds	249	Niobium and its compounds	123
钴及其化合物		铌及其化合物	
Chromium (total chromium)	153	Molybdenum and its compounds	117
铬(总铬)		钼及其化合物	
Nickel and its compounds	62	Iron and its compounds	146
镍及其化合物		铁及其化合物	
Vanadium and its compounds	26	Others	45
钒及其化合物		其它	
Cooling lubricants	42	Total number of analyses	2252
冷却润滑剂			

Measurements at Hardmetal Producers

测试硬质合金产品

Work area 工作区域	Number 数量
Manual weighing 人工称重	208
Pressing, general 普通压制	278
Milling, general 普通研磨	12
Reaction container, general 反应器	12
Wet grinding 湿磨	233
Dry grinding 干磨	65
Laser beam cutting 激光切割	10
Green forming 毛坯成型	167
Total number of analyses	1017

Measurements at Hardmetal Users

测试硬质合金用户

Work area 工作区域	Number 数量
Spark erosion 电火花	27
Wet grinding 湿磨	766
Dry grinding 干磨	442
Total number of analyses	1235

Measurement Reports

测试报告

- Every location receives a detailed report of the measurements including the following information:
- 每个区域接到一份详细的测试报告，包括以下内容：
 - Exposure Conditions
 - 暴露状况
 - Production Process/Equipment/Working Process
 - 产品工艺/设备/工作程序
 - Materials Used
 - 使用材料
 - Technical Details for the Working Area
 - 该区域的详细工艺
 - Ventilation conditions
 - 通风系统
 - Details for the measurements
 - 详细测试报告



Final Results and Benefits

最终成果

- Study required no cost to industry, but yet provides comprehensive exposure information for production and use of hard metal tools.
- 所有研究费用由BGAI承担，这些研究为生产及硬质合金使用提供了全面提供了暴露信息
- Results can be used for REACH purposes as well as for management of worker Health and Safety
- 结果可以应用于REACH目的以及工人的健康和安全管理
- Study contributes solid information to the process of Hardmetal Health classification
- 研究为硬质合金健康分类过程贡献了可靠的信息