

**SCHOOL OF SCIENCE**

**DEPARTMENT OF CHEMISTRY**

**POSTGRADUATE PROGRAM**

**“INORGANIC CHEMISTRY AND ITS APPLICATIONS IN INDUSTRY”**

**RESEARCH DIPLOMA THESIS**

**Title**

**NAME AND SURNAME**

**AREA OF SPECIALIZATION (e.g., CHEMIST)**

**ATHENS**

**MONTH** **YEAR**

**RESEARCH DIPLOMA THESIS**

Title

**NAME AND SURNAME**

**R.N.:** 000000000000000000000000000

**THESIS COMMITTEE**

DATE OF THESIS DEFENSE DD/MM/YEAR

**ABSTRACT**

**SUBJECT AREA:**

**KEYWORDS:** 5 keywords

**ACKNOWLEDGEMENTS**

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**CHAPTER 1
[HEADING]**

* 1. **Basic concepts**

The electron configuration and selected properties of the elements of the first-row d-block elements are presented in Table 1.

**Table 1. Selected properties of the first-row d-block elements.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Element** | **Z** | **Electron configuration** | **Electronegativity** | **Metallic radius (nm)** | **Melting point (ºC)** | **Density (g cm-3)** |
| **Sc** | 21 | [Ar]3d14s2 | 1.36 | 0.162 | 1541 | 2.99 |
| **Ti** | 22 | [Ar]3d24s2 | 1.54 | 0.147 | 1668 | 4.51 |
| **V** | 23 | [Ar]3d34s2 | 1.63 | 0.134 | 1910 | 6.00 |
| **Cr** | 24 | [Ar]3d54s1 | 1.66 | 0.128 | 1907 | 7.15 |
| **Mn** | 25 | [Ar]3d54s2 | 1.55 | 0.127 | 1246 | 7.30 |
| **Fe** | 26 | [Ar]3d64s2 | 1.83 | 0.126 | 1538 | 7.87 |
| **Co** | 27 | [Ar]3d74s2 | 1.88 | 0.125 | 1495 | 8.86 |
| **Ni** | 28 | [Ar]3d84s2 | 1.91 | 0.124 | 1455 | 8.90 |
| **Cu** | 29 | [Ar]3d104s1 | 1.90 | 0.128 | 1085 | 8.96 |
| **Zn** | 30 | [Ar]3d104s2 | 1.65 | 0.134 | 420 | 7.13 |

All elements except scandium can be found in the divalent state, corresponding

The first-row d-block elements can react with various chemical elements.

* 1. **Subheading**

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**CHAPTER 2
[HEADING]**

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**Figure 1. Serene sunset**

# CONCLUSIONS

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**ABBREVIATIONS-ACRONYMS**

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**APPENDIX I**

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**APPENDIX II**

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